Lectures
ON
AFFECTIONS OF THE EYE IN RELATION TO MEDICINE AND SURGERY.

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LECTURE III

GENTLEMEN,—I venture in this my last lecture to take up the subject of Myopia, or short-sightedness, because it is an affection with which we are all more or less familiar, and which, whilst there is reason to believe that it is likely to increase in the future, is yet under the control of well-directed prophylactic measures. Travellers in all parts of the world testify to the keenness of vision for distant objects of the untutored savage. In the deserts of Africa, the steppes of Asia, and the vast plains of America and Australia the life of the savage is essentially dependent on his distant vision, either by enabling him to perceive, pursue, and circumvent his prey, or by enabling him to avail himself of opportunities of eluding his enemies; if his eyesight fail, he is likely to allow the one to escape and to fall into the hands of the other. Myopia is essentially a defect consequent upon civilisation and cultivation; and in proportion as attention is directed to minute objects, and the accommodation of the eye is more strongly exerted, the larger will be the number of cases that present themselves. It is almost unknown amongst savage nations. The institution of School Boards now renders a certain amount of education compulsory upon the lowest classes of the population, whilst the great spread of what may be termed the examination system of election for the various professions and public services undoubtedly causes a great strain upon the eyes of young people of both sexes during a somewhat critical period of their life. Thirty years ago there were scarcely any examinations in the law, in the army, or for admission into the civil service; now, the students in these subjects have to read for many hours daily for several years. Those who have well-formed and originally sound eyes, and work under favourable circumstances, can stand this strain without the least permanent harm; but many of those who have some defect of the eyes themselves, or who are deficient in tone of the body generally, or who have to work under unfavourable circumstances, succumb to the continued effort in a very evident manner. Moreover, in times not very remote, a large number of young women belonging to the middle classes never exerted their eyes to an injurious extent upon near objects, simply because, if pain or discomfort were felt, they could at any time give up their work and pass to other amusements and to other modes of spending their time. Hence, when marriages took place (and we shall hereafter see that heredity plays a part in the development of the disease), one parent at least was likely to be free from any vice of conformation. But this is all changed now. Many girls work for examination with quite as much energy and determination as boys. The examinations are quite as difficult and require as much preparation as those for the professions; and, when girls go to the modern high-class schools, a spirit of emulation, stimulated in many instances by the hope of obtaining rewards and prizes, and sometimes of being selected to fill posts, if not of considerable emolument, yet sufficient to enable them to feel that they are not a burden upon their families, leads them to work with extraordinary vigour and tenacity of purpose. The object of my present lecture is to show when and how this very honourable ambition may be gratified without doing permanent damage to the eyes, and in what classes and kinds of eyes it will be well for the medical attendant to recommend some other mode of escape for superfluous energy than that of the study of books.

Not long ago I was amused at hearing a girl of fifteen, who had just joined a high school, describe her astonishment on finding that the girls in her own class were about the same age, when she had credited them with being eighteen or nineteen, because, she said, "they were so sedate and formal, and had no fun in them." "Poor wretches!—overworked!" was the natural exclamation. A good many of such girls become myopic. The fault lies not with the teachers, but with the parents. A healthy girl, with a well-developed robust frame, can doubtless do a considerable amount of work, both mental and bodily, without harm. But the mistake is made of thinking that a girl of delicate make can also do a large amount of brain work without harm to the system; that a feeble frame can compete with a robust one; and that, however frail the bodily powers may be, the mental powers may be severely taxed.

Instances present themselves to every ophthalmic surgeon of acquired myopia due directly and immediately to examination work. A boy was recently brought to me who had worked hard for admission into one of the services, he passed his examination with credit, but upon presenting himself for the medical examination, he was summarily rejected on the score that his vision was defective. The lad had taken great interest in the profession he had selected, and it was a severe blow, both to himself and to his family. I examined him carefully, and came to the conclusion that it was a case of acquired myopia, and wrote a strong testimonial for him, to the effect that his eyes were perfectly sound, that his vision would, after rest for a time, be perfect, and that, so far as they were concerned, they should not be a bar to his admission. The case was taken into consideration, and the lad admitted; but I do not doubt that there are many who are less fortunate.

The influence of literary work in causing myopia has been brought out in a very remarkable manner by statistics, and for the statistics on this particular point we are mainly indebted to the observations of German ophthalmologists and physicians, though their statements have been fully corroborated by French, American, and English practitioners. The first observations of value were made by Ware, in 1812, who found that of 1300 children at Chelsea only three were myopic, whilst of 127 students at Oxford thirty-two wore glasses. E. v. Jäger, in Vienna, in 1861, found in an orphan asylum that of 100 boys between seven and fourteen years of age thirty-three were emmetropic or possessed normal vision, fifty-five were myopic, and twelve hyperopic, whilst in a private school in 100 children between nine and sixteen years of age eighteen were normal, eighty myopic, and two hypermetropic. Ruete subsequently gave some statistics from the Leipzig schools; but these were entirely thrown into the shade by the far more extensive observations of Cohn. He examined the eyes of five village schools, twenty elementary town schools, two middle schools, two higher ladies' schools, two royal schools, and two gymnasia in Breslau, the total number of pupils in which was 10,060, of whom 1486 were in village schools and 8574 were in town schools. Of the whole number of children examined 83 per cent. only possessed healthy vision, the remaining 17 per cent. had some error of refraction—that is, nearly one-fifth of the whole. Ten per cent. were affected with myopia. He noted in five village schools that 1·4 per cent. were myopic; in twenty elementary schools, 6·7 per cent.; in two higher girls' schools, 7·7 per cent.; in two middle schools, 10·3 per cent.; in two royal schools, 19·7 per cent.; in two gymnasia, 26·2 per cent. These figures show that very little myopia existed amongst the scholars in the village schools, whilst in town schools the proportion of students suffering from myopia steadily increased from the lowest to the highest schools, and Cohn draws the conclusion that the number of myopes steadily rises with the amount of strain to which the eyes are subjected. But a second point came out in these statistics which pointed to the same conclusion, for it appeared that the number of myopes increased in all schools from the lower classes to the upper ones, so that in the town elementary schools, from the number of myopia being 3·5 per cent. in the third class, it rose to 9·8 in the first class. Sex seemed to exert a powerful influence, since in the whole number there were twice as many boys as girls. A third fact of interest was noticed, still pointing in the same direction—viz., that not only did the absolute number of myopes increase in passing from the lower to the higher classes, but, which is of still greater importance, there was a regular increase in the degree of the myopia in the higher schools. No village school presented a case of higher myopia than —2·25 D. Half of all the cases were weaker than —1·5 D. The higher grades were only found in the gymnasia and royal schools. On adding the grades of myopia found in a school together, and dividing by the number of myopes, it

appeared that the average degree of myopia was —1·5; in twenty elementary schools about —1·75, in two middle schools nearly —2, in two royal schools nearly —2·25, and in two gymnasia about —2. After the publication of Cohn's researches many other inquirers entered the same field. Erismann arrived at the conclusion that the normal refraction of youth and childhood is hyperopia, and that only a small proportion remain so, the greater number becoming first emmetropic and then myopic. Thus :—

	Class.								
	1.	2.	3.	4.	5.	6.	7.	8.	9.
M.	13·6	15·8	22·4	30·7	38·4	41·3	42·0	42·8	41·7
H.	67·8	55·6	50·5	41·3	34·7	34·5	32·4	36·2	40·0
E.	18·6	28·0	26·4	27·3	26·4	24·2	25·0	21·0	18·3

It is common for serious choroidal defects at the posterior pole of the eye to coexist with myopia, and especially with the higher degrees. Thus amongst 1245 cases of myopia Erismann found in 5 per cent. no defect, in 71 per cent. moderate, and in 24 per cent. considerable atrophic changes, and during the years of school life the proportion rose from 14 to 38 per cent.

Let me briefly explain the nature of myopia. The healthy eye is so constructed that when at rest parallel rays are brought to a focus upon the retina. Parallel rays come from distant objects, or at least approximately parallel rays, for, in reality, the rays proceeding from the stars, the most distant objects with which we are acquainted, are slightly divergent. Distant objects are therefore seen distinctly by the healthy eye when it is at rest. The myopic eye is, however, so constructed that parallel rays are brought to a focus in front of the retina when the accommodative apparatus is at rest. Now, this may result from one of two causes: either the lens and refractive apparatus may be too strong, or the lens may be of normal strength, but the eye may be so elongated in form that the focus necessarily falls in front of the retina. In the vast majority of cases it has been found by examination that the latter is the true cause. Objects that are brought near to the eye give off divergent rays; and these, in the case of the normally formed eye, cannot be brought to a focus on the retina, but unite into a focus behind the retina. In order that they should be seen distinctly, the healthy eye is said to exert its power of accommodation. The ciliary muscle contracts, and taking its fixed point close to the junction of the sclera and cornea, and being inserted into the outer surface of the ciliary process and choroid, it draws the choroid forwards. This movement causes the suspensory ligament of the lens to be relaxed, and the lens, by virtue of its elasticity, springs forward and becomes thicker, the posterior surface remaining stationary. Having become thicker, it is now adapted to focus the diverging rays upon the retina. When the eye is raised from the work and a distant object is looked at, the ciliary muscle ceases to act, the choroid resumes its original position, the suspensory ligament is tightened, the lens becomes flattened, and the eye is accommodated for the clear vision of the distant object. Thus vision for distance in the normal eye is essentially a passive act, and dependent upon the lens being retained in a flattened condition by elastic power; whilst vision for near objects is essentially active, and requires for the due adjustment of the refractive media the contraction of the ciliary muscle. The subject of myopia places his book near to the eye, and the reason is now sufficiently obvious. He is unable to bring parallel rays to a focus upon his retina, and any effort that he makes with his ciliary muscle, by making the lens thicker, only increases his indistinctness of vision. He requires divergent rays, and hence he brings his book or work closer and closer to the eye, till the luminous rays proceeding from each letter or thread are so divergent that they just meet in a focus upon the retina. In some persons the book is brought so close that the nose almost sweeps the page; and it is surprising how much work some men who labour under this disadvantage can execute. It must not be supposed that the range of accommodation of a short-sighted person is necessarily less than that of a man with normally formed eyes; though he is unable to see so far, though his distant or remote point of vision is within measurable distance, whilst that of the healthy eye is infinite, yet he makes up for this deficiency by seeing objects when placed much nearer to the eye than in the normal eye. It is to be noticed, then, that the myopic patient need not necessarily make any effort at accommodation. He has only to hold his work at his far point—i.e., at such a distance from the eye as may just enable the diverging rays to be focused on the retina—and the eye will be as much at rest as that of a healthy eye when it is gazing at a star.

But in looking at near objects the accommodation of the eye is not the only thing to be considered. When the normal eye looks at any object at a practically infinite distance the visual lines are nearly parallel, and there is no convergence of the globes; but as soon as a near object is looked at a consensual and harmonious contraction of the internal recti takes place and the globes are rolled inwards. The amount of this movement depends on the nearness of the object; and as the object is approximated to the eye it is rapidly felt to be a fatiguing effort. But if this be the case with the normal eye where the object is rarely approximated to less than ten, twelve, or fourteen inches, how much greater must the effort be in a myopic patient, in which the object is brought to a distance of only two or three inches from the nose. This effort is, in fact, so great that in a considerable number of cases an external squint is the result; for, the internal recti being no longer able to maintain their contraction, one or other gives way, and the external rectus rolls the eye outwards, and the patient then, by shifting the page or work to one side, relieves the effort of the opposite muscle. In moderate degrees of myopia this tendency to external strabismus is less apparent, but it must always be remembered that the myopic patient makes a greater call upon his internal recti than the man who has healthy eyes; and this effort has been regarded by some excellent authorities as an important factor in the development of myopia as a result of work. It explains, at any rate, the feeling of fatigue after work of which most short-sighted people complain, and which cannot, as is the case with hypermetropic persons, be referred to contraction and overwork of the ciliary muscle.

I have already said we are indebted to the Germans for many statistics in regard to myopia. We may now reasonably ask what are the circumstances which have led to the astonishing frequency of the disease in Germany, and what lessons and hints we may obtain which may prevent the occurrence of myopia to the same extent in this country? The etiology or mode of causation of myopia has received different explanations at the hands of different observers, and it is probable that it is not the result of any one circumstance, but rather of a combination of many.

According to v. Gräfe, the convergence required for near vision renders the muscles of the eye tense, and they consequently, being stretched over the globe, exert a certain amount of pressure upon it. The less resisting posterior wall is pressed backwards. Donders and Arlt further maintain that when convergence of the eyes is long maintained a venous blood stasis in the uveal tract is induced which intensifies the blood pressure in the globe of the eye. This elevation of pressure would have a special tendency to cause protrusion of the posterior pole to elongation of the axis, and consequently to myopia. Coccius has distinctly seen with the ophthalmoscope that the veins in the eye are under pressure during accommodation and convergence, for they become fuller than when the eye is at rest. Sigismund[1] states that Arlt has explained why, under these circumstances, a protrusion of the optic nerve does not take place as in glaucoma, and holds it to be due to the fact that the tissues of the eye are more yielding and elastic in youth, whilst the tension of the globe is more persistent in glaucoma. Sigismund remarks that no anatomist nor physiologist has given a satisfactory explanation why the two optic nerves, before they leave the skull, in order to enter the optic canal, undergo such a remarkable curvation as they present. The nerve fibres are interwoven on the sella turcica and are firmly united together, and in front of this union is the firm bony bridge between the two optic foramina. This bony bridge allows of no unloosening of the optic nerve decussation in front, and he entertains no doubt that this relation is directly intended to prevent any forward traction or extension of the optic nerves. Such forward traction might, however, easily occur during strong convergence of the eyes. If the internal recti contract, the anterior segment of the globe must roll in, and the posterior pole with the optic nerve attached to it must roll out, and consequently stretch the nerve. The optic nerve runs with an **S**-like curvature, the convexity being towards the temporal region, a disposition which prevents over-stretching, for the curvature is abolished by the excursion of the posterior pole, and in

[1] Berlin. Klin. Wochens., 1881, p. 255.

most eyes the relation is such that no pathological change results. It is, however, easily to be seen that slight circumstances might disturb the arrangement. If, for example, the S form of curvature of the optic nerves is not sufficient to compensate for the extension of the nerve caused by the excursion of the posterior pole to the temporal side, as in cases where there is great breadth of skull, with unusual separation of the centres of rotation of the eyes from each other, it is obvious that a traction would be exerted on the optic nerve which would again tend to produce extension of the temporal side and an indent of the median side, and frequent repetition of this would lead to staphyloma posticum, which would in the large majority of cases occur on the temporal side. The effect would be still more strongly marked in cases of elongation of the whole bulb, because the excursion of the posterior pole during convergence would be so much greater. This may even, he thinks, explain the frequently occurring strabismus divergens of myopia. In order to avoid the traction at the posterior pole the eyes separate from each other posteriorly. The traction which the optic nerve experiences and exercises explains the widening of the external sheath of the optic nerve, as well as the detachment of the external fibrous layer from the sclerotic which is observed in high degrees of myopia.

The tension of the myopic eye is certainly in most cases above the mean, and Cohn explains this by stating that on looking at near objects the act of accommodation augments the hydrostatic pressure in the posterior part of the eye, the most yielding region of the young thin sclera gives way, and the axis of the eye thus becomes elongated; and he further points out that with prolonged accommodation for near objects the muscle of accommodation has not time to relax and rest, and this persistently exalted pressure induces short-sightedness, which is in fact the consequence of the too long axis. At any rate, we may be certain that the overfilling of the eye with blood will increase the pressure in the posterior part of the globe, and that such overfilling will be induced by any obstruction to the return of blood from the eye; but such obstruction will be afforded by the forward inclination of the head, by which therefore the occurrence of myopia will be favoured. A forward position, with the head inclined forward as in study, will therefore act as a predisposing cause of myopia, and demand careful attention to the position of children during the hours of work.

It is very difficult to obtain accurate information in regard to whether heredity exerts much influence on the occurrence of myopia, and the results at present obtained are rather conflicting. Cohn has made some, but not very satisfactory, attempts in this direction. He asked each child whether the father or mother wore glasses, whether they used them for reading or for distance, whether the patient himself saw better with his parent's glasses or worse. Of course, in some instances the parents were one or both dead, whilst in other instances the degree of myopia from which they suffered might not be sufficient to induce them to employ glasses at all. So far as his inquiries went, however, the ratio of myopic parents was only 2·7 per cent. in 1000 cases, and of these the mother was at fault in eleven cases and the father in seventeen, and, though the number was small to draw any conclusions from, both he and Scheiding found that the defect seemed to be transmitted chiefly from the father to the son and from the mother to the daughter. Erismann found 30 per cent. of myopes were hereditary. He it is who, looking at the gradually increasing physical and choroidal defects in those descended from myopic parents, draws the unsatisfactory conclusion that in a few generations the whole population, or at least all those who live in towns, will be myopic. Even if we do not allow that the disease is directly hereditary, it must be admitted that there is a greater predisposition to it. Pflüger found in 100 families at Lucerne, with 449 children without hereditary influence, there was scarcely 8 per cent. of myopia, whilst in 100 families, with 395 children with hereditary predisposition, there were 19 per cent. From his observations he is disposed to believe that about 10 per cent. of all myopes are hereditary.

It is to be remembered that hyperopia is by far the most common condition of the eye in children. This has been clearly proved both by Erismann in St. Petersburg, who examined the eyes of 4368 scholars with Snellen's test types at twenty feet distance, and by Cohn, who had the exceptionally good fortune to be allowed to atropinise the eyes of no less than 240 children attending a school in Schreibenhau. Erismann found that 30·2 per cent. of the children he examined were myopic, 26 per cent. emmetropic, and 43·3 per cent. hyperopic, whilst only 0·5 per cent. were amblyopic. He drew the conclusion from his observations that the normal refraction of the eye in youth is hypermetropic, and that as time goes on only a small proportion remain hyperopic, the greater number becoming myopic after having passed through a stage of emmetropia or normal vision. Now, since Donders had laid down the doctrine that hyperopically constructed eyes never become myopic, the statement of Erismann attracted much attention; and the exceptional opportunity of Cohn is interesting because it affords a distinct confirmation of Erismann's view. Cohn found, in fact, that more than 80 per cent. of village children have apparent emmetropia; whilst there is only 1 per cent. of myopia. The sharpness of vision was remarkable. All the apparently emmetropic children had $S > 1$; the majority, $> = 2$; many, $S > 2\frac{1}{2}$; and a few actually $S = 3$, or could read Snellen 20 at sixty feet.

But Cohn did more. He endeavoured to follow the changes that occur in the individual scholars at the Breslau Friedrich's Gymnasium. He made, with this view, one examination in May, 1870, and a second in November, 1871. At the first examination there were 361 scholars, of whom 174 were found abnormal, 35 per cent. having myopia, 7 per cent. hypermetropia, and 6 per cent. other diseases of the eyes. From the seventh to the first, or highest class, the following increase in the number of myopes was observed:—13, 21, 27, 35, 48, 58, and 60 per cent. The degree of myopia was, of course, very different in different cases, but it may be remarked that 47 per cent., or nearly one-half, had myopia varying in intensity from 1-36th to 1-10th. After the lapse of one year and a half—that is, in the November examination,—it was found that 103 scholars had left the Gymnasium emmetropic and 71 myopic. Only 84 of those noted at the first examination as emmetropic, and 54 of those who were myopic, could be examined; but of these it was found that of the former 70 were still emmetropic, whilst 14, or 16 per cent., had become myopic, the degree varying from 1-50th to 1-20th, whilst of the 54 myopes 28 had experienced a decided increase in the degree of their myopia.

As a proof of the dependence of myopia on the conditions under which work is executed may be mentioned the circumstance stated by Florschütz, that the number of myopes has diminished in Coburg as a result of the building of the new school palaces. Thus in 1874 in the town schools (*Bürgerschulen*) the proportion of myopes was 12 and 14 per cent., whilst in 1877 it was only 4 and 7 per cent. It speaks well for the Kindergarten style of education that in the only case in which the students have been carefully examined—namely, by Koppe in Dorpat—there was not one case of myopia, but ninety-eight were hypermetropic and two emmetropic. [Specimens of type and drawings of appropriate school-desks were exhibited.]

The points which should be insisted upon for the prevention of myopia, or for its arrest when it has commenced, are the following:—1. Work should always be done in a good light, and so far as may be possible by daylight; hence late hours, reading in bed, by twilight and by firelight, should be discountenanced. 2. The type of the books in common use should be good. If two editions are printed, one with large and the other with small type, the former should be chosen. A few chapters may be detached and bound separately, so as to make a light book, easily held in the hand. 3. In order that the head may be kept up and the child prevented from poring over his books, a raised desk and a form well adapted to his height should be provided. 4. The hours of work should be moderate; none should be done before breakfast. School hours should not be longer than from nine till twelve and from two till four, with perhaps an hour in the evening for preparation. 5. Active out-door games—lawn tennis, fives, football, and cricket—should be encouraged. 6. The diet should be abundant and varied. 7. The bowels should be kept in order, and constipation avoided. 8. Appropriate glasses should be provided for viewing distant objects, and especially for following instruction on the black board, which many children wholly lose; but if the selection of glasses is not placed in the hands of an ophthalmic surgeon, it will be well to remember that in moderate myopia no glasses are required for near work, and that the feeblest glasses which give good vision for distance should be used.

(To be concluded.)

DIPHTHERIA; ITS ETIOLOGY AND TREATMENT.[1]

BY ALFRED CARPENTER, M.D. LOND., &c.

THE etiology of diphtheria is still a disputed point. There are many reasons why this is to be regretted, the most important being that treatment must be empirical until its causation is determined with certainty. Intimately associated with causation are the sequelæ which follow upon its incidence, and no explanation will be satisfactory which does not thoroughly elucidate their occurrence. The latter may be divided into two sections: those which are immediate, and those which probably follow in the relation of cause and effect, but which are at present seldom associated in the minds of the medical attendant with the preceding diphtheritic condition. I propose to show the intimate relationship between these classes of cases, and to point out that treatment to be effectual must be based upon rational lines, and be followed out on those lines to the termination of the case. Without asserting that diphtheria and potato disease are in any way allied to each other, except by analogy, I have been struck by the similarity of the effect produced in both diseases. The breathing passages are impeded. There is a similar train of results, though in the opposite direction. In the one case carbonic acid cannot get into the plant to allow of the evolution of oxygen; and in the other oxygen fails to get admission to the blood-current, so as to allow of the oxidation of carbon in the various tissues of the body. There is in both cases suffocation and rapid death when the disease is immediately severe. If the course of the disease is not so rapid, and death does not arise from asphyxia, the nutritive fluid becomes altered by something intimately connected with the causation of the disease, and which leads to death either by paralysis or by failure of nerve power in the human body; whilst in vegetable life it arises from simple loss of power to assimilate the juices upon which the life of the plant depends. There is a blighted state produced by which the crop is destroyed sooner or later in the course of the season. If both these dangers are escaped, the fruit is permeated by a mycelium which produces seed of its own: the evil day is postponed; but when the store is opened in midwinter a large portion of the crop is found to be invaded by processes similar to necrosis, and which may be likened to the sequelæ of diphtheria. Even those potatoes which seem sound are permeated by mycelium, or have so-called resting spores in their buds only waiting for seasonable opportunities to develop into new growths, which will inevitably destroy the potato, and prevent any healthy production from that part of it which is so affected. The causation of one kind of potato rot is recognised as produced by a fungus called botrytis, or peronospora infestans, one of the genus mucidines, or hyphomycetous fungi. They form the commonest moulds upon decaying vegetable substances, and include some parasitic families which produce great destruction in vegetable matters. Their germs are always present almost everywhere, and only want a forcing bed in which they can develop, and then their effects are immediately manifest. There is great doubt in the minds of some men as to the capacity of parasitic life either to injure plants or animals which are in vigorous health. It is possible that this doubt has a sound basis, and that we may agree with my great teacher, John Simon, "that a contagium of a given disease, such as small-pox or measles [I here interpose diphtheria and potato rot] has no more power to influence the unpredisposed body than yeast has to ferment alcohol, or to turn pure water into beer." I am now inclined to think that this is so, and that in the absence of some impurity in the blood of the animal or the juice of the plant—that in the absence of some material which is the sequence of the act of living, and which material has not been properly excreted out of the system—the germs which set up parasitic diseases would fail to find a pabulum in which they could increase and multiply, and that they would be starved, so as to ultimately abort or dwindle away to nothing, and thus fail to establish a colony in their victim. I have taken up this view for a variety of reasons. It is true it is not indubitably established that infectious disease, such as diphtheria, is the result of filth in the home or in its surroundings, but the presence of the disease in the great majority of instances is intimately associated with decomposing excreta in some form or other. I have therefore come to the conclusion that when it fails to be proved to be so associated from the absence of any such visible cause outside the body, it is because the excreta have not passed away from the blood of the recipient, and that they are still within the curtilage of the human dwelling-house—that is, within the living precincts of its producers.

The connexion of filth diseases with human excreta is a recognised fact. Diarrhœa, cholera, and enteric fever are certainly associated with human filth; a relaxed throat with diphtheritic exudation is also recognised as intimately connected with similar states, so that a person so affected cannot be cured whilst residing in a given dwelling-house in which the air is impregnated with the results of sewage decomposition. He must move into a purer atmosphere before the diseased state of his mucous membrane can be remedied. And why? He is like a man well able, under ordinary circumstances, to swim if naked; but his head is just under water because of heavy boots or other weight loading him beyond his swimming powers. The impure air acting like the boots, prevents that healthy assimilation of food by the aid of which he would recover power to resist the influence of the fungoid germs which irritate his mucous membrane; just as some men are from so-called peculiar idiosyncrasies unable to resist the influence of the pollen of some kind of grasses and become subject to hay fever, whilst others do not feel them in the least, and are not so affected.

I do not assume that the excreta of a human being retained within his own body are necessarily hurtful simply from retention. That is disproved every day of one's life, but I contend that it is impossible for an excretory organ to be defective for some time and to fail in its complete and regular duty without some minute particles of organic impurity being retained in the fluids of the body in a condition which is foreign to their ordinary state. The blood is placed in that form which is analogous to what obtains in the sufferer from hay fever, when a person so situated is exposed to the germs upon which diphtheria depends for its production, he becomes the victim of that disease. If he was not in that particular condition, he would not be affected by diphtheria any more than the majority of us in this room would be affected by hay fever if we joined a hay-making party. This view of the case will explain why we occasionally find diphtheria in exceptionally clean and healthy neighbourhoods. It will explain its hereditary tendencies and the so-called idiosyncrasies of those who appear to be especially prone to its ravages. I have reason to believe that temperature has much to do with its sudden development. That whilst it is certain that ranges of hills in open country are liable to its incidence as much probably as less elevated spots, that it arises at clusters of cottages entirely away from sewers or a general water supply, and seems to arise *suo sponte*; yet it does at times follow lines of sewers in a way that shows that intimate connexion with drainage which is suggestive of cause and effect; it is also propagated by milk-sellers, as is shown by evidence which cannot be disputed. It is not more prevalent in hot seasons, but, on the contrary, it seems more general in the colder months, producing greater mortality during or soon after sudden violent reductions of temperature than at other times. I have always found that its development has been associated either with washing-day, when hot water has been allowed to flow into the cesspool or drain, or that there has been a communication between the sewer and some steam-engine or other source of hot water, which has elevated the temperature of the sewage to blood-heat. It is to this point that I wish to direct the attention of those who are inquiring into outbreaks of diphtheria. The connexion of tub-night with croup is not unknown; I believe it was in Edinburgh that, some forty years ago, at a conference of medical men, it was discovered that Saturday night was the night upon which the majority of the attacks of so-called croup took place among the poor, and that it was shown to be intimately connected with the Saturday night tubbing with which the Scotch were then accustomed to treat their children, the steamy condition of the rooms in which they slept bringing into sudden activity the germs upon which I believe the disease to depend for its development. That a particular form of micrococcus or germ is always present in diphtheritic exudation, and that this germ is capable of setting up the disease, have been established upon

[1] A paper read in the Health Section, British Medical Association, Liverpool, August 1st, 1883.

a sound basis. The germ has been cultivated in the vitreous humour of the eyeball, it has passed through several generations, and the operator has ultimately been able to reproduce the same disease in another animal in a way which shows its complete identity. These micrococci are excessively minute, probably less than 1-30,000th of an inch in diameter. They have a life history of their own, and though not identical with botrytis or peronospora, they must have reproductive organs, they follow the life history of the algæ, as well as being endowed with some of the properties of the fungal tribes, and have probably resting spores as well as ordinary spores, both kinds developing together. From analogy we may assume that the resting spores are much less destructible than the ordinary spores, and are capable of preservation under conditions which enable them to reproduce their kind whenever the conditions arise which are required for the purpose.

What are these conditions? (1) The presence of certain forms of excreta; (2) of an elevated temperature, not much below blood-heat, but below that requisite for the coagulation of albumen; (3) of an atmosphere saturated with moisture, and probably also with (4) an excess of carbonic or some other acid in the air, by which the growth of the germ is determined; and (5) some other meteorological or electric manifestation at present entirely unknown. If these states coincide, the resting spore becomes active, it finds material which it can assimilate, and the disease is set up, commencing in the mucous membrane of the throat, that being the very place in which we find moisture, warmth, and CO_2. The way in which such actions do take place is manifest from the fact that the spores of a mushroom cannot be cultivated unless they have been in contact with the mucous membrane of some of the equine tribe. So diphtheritic germs (like the pollen of plants which fall upon the stigma of an appropriate carpel), as soon as they touch such a mucous surface, at once put forth all their vigour; an invisible mycelium is put out, a change takes place in the character of the fluids of the part, the disease arises and runs its course, and passes through the changes which indicate its presence. A felt-like mass forms in the throat, the patient dies asphyxiated, or the blood is so altered by the action of the micrococcus that the blood-corpuscles no longer perform their duty, and oxygen gradually ceases to be assimilated. This leads to failure of action in certain nerve centres, and paralysis may result. The micrococci have a life history of their own, a definite course to run; they are expelled by some of the excretory organs, and those which escape expulsion die in the course of time, leaving behind them spores similar to resting spores, which may set up sequelæ in an unexpected manner and at unexpected times. Returning to the conditions, let me say that as regards the character of the excreta this must be peculiar; that as scarlatina probably has its origin when apparently arising *suo sponte* in the blood of animals which are not in a healthy state, and which is undergoing decomposition, so the diphtheritic germ has its apparent origin *de novo* from morbid matter produced in the tissues of animals. It is probable that the excreta of vegetable feeders do not furnish germs which could develop into diphtheritic micrococci. That if a right condition be present the cells are hatched, and they then are capable of extension by so-called contagion, but that even then it is requisite that the recipient shall be in a state fitted to receive it, and like to the carpel of a fruit ready for the pollen which is peculiar to it, otherwise the cell fails to find fitting pabulum for its extension and the development of its reproductive organs. An elevated temperature is necessary, together with an atmosphere saturated with moisture. I conclude that this is so, because I have always found the coincidence in first outbreaks, and the consensus of opinion points to the necessity for moisture or dampness whenever the disease is epidemic. I go also to analogy for support in this view. The potato disease spreads more rapidly in the damp atmosphere which is found among the rank vegetation of overgrown haulms on those days on which the sun is obscured by clouds and the air itself close, full of moisture, and the temperature high. Sunlight and dryness soon remove the incidence of potato blight. The latter, however, does not require the elevated temperature which is requisite for the hatching of diphtheritic spores, but the warmth of a day in which thunderstorms abound is sufficient for the purposes of promoting potato disease. That carbonic or some other gaseous acid must be present is probably the case, because it has been shown that minute fungi grow much more rapidly and much more luxuriantly in such an atmosphere. It is probable that water which is free from carbonic or some other acid in solution will not be able to propagate even typhoid germs for want of the necessary pabulum, which accounts for the fact of certain waters, apparently free from suspicion of the presence of any infective principle, suddenly developing such a tendency from having lost their power of neutralising the CO_2 for want of lime sufficient for the purpose, or of discharging it into the atmosphere. In this case typhoid germs rapidly multiply in the water, and disease is spread by its means, and so it is that diphtheria suddenly springs into great activity. There is a rapid fall of temperature, lasting for a day or two; the managers in a given school, or other places similarly situated, are not prepared for the change; fires are not lighted, but the cold and usually damp air is shut out, and the atmosphere of the school becomes highly charged with CO_2; and if it should happen that a child with an infectious throat is present, the disease spreads as rapidly as potato rot spreads on a favourable day. If there are the excreta of such people in the sewer, the admission of large quantities of hot water forces out a steaming air into the closed-up premises from the defective drain. But how will this explain the sequelæ which so frequently follow upon diphtheritic mischief? I mentioned the fact that potato rot is known to be propagated by the agency of resting spores. These are spores or germs which are shut up in a very resistant envelope which enables them to retain their vitality in adverse circumstances, so that heat, if it be not much above 212°, and cold even at zero, will fail to destroy them. These spores may by analogy be fairly assumed to exist. The ordinary spores are evacuated from the system as the patient recovers, but the resting spores remain in contact with the lining membrane of the bloodvessels, or they are carried by the blood-current into some of those parts of the body which usually act as filters and retain matters which are foreign to the blood-current. Perhaps they attach themselves to lining membranes such as is on the valves of the heart; they may there as they develop set up actions such as ulcerative endocarditis, then being detached from the valves as they increase in size they irritate the membrane, and being carried on by the blood-current they produce emboli at the spot to which they are carried. There they multiply sooner or later, and the sequences of the disease appear as if they were separate and independent diseases, and as such are often registered among the causes of death, totally independent of the preceding diphtheritic condition.

I have the history of a considerable number of cases in which inflammations of different organs have come on a few weeks after the patient has suffered from a moderately slight throat affection which has not been recognised as diphtheria, but which has been coincident in point of time and place with true diphtheritic attacks, that I have been inclined to look upon the so-called inflammations as having been caused by diphtheritic emboli, and have treated them accordingly. That I now advise that course in the majority of cases in which the inflammatory attack appears to be idiopathic—that is, if it has not been preceded by some known chronic diseased state of the suffering part.

The treatment has been the use of ammonia as the proper stimulant, so as to reduce the acidity of the blood, for I have generally found these cases in constitutions which are either rheumatic with the lactic acid diathesis, or gouty with an excess of lithic acid in the constitution. I have generally given alkalies, as lithia or potass in combination with it, and when there has been an elevated temperature, which has indicated excessive chemical action in the invaded part, I have given the sulpho-carbolate of soda with the greatest possible benefit. This salt reduces temperature most likely by its antiparasitic power, for as soon as a few doses have been given the fever subsides, and the patient is much relieved; but if the medicine be left off too soon there is certain to be a relapse. This is very disappointing, and if the practitioner is disheartened and tries another remedy the patient will probably die; but if he continues the sulpho-carbolate he will ultimately destroy all the developing resting spores in the tissues of his patient, and lead him on to a perfect recovery. It is curious how in these cases organ after organ becomes involved in the disease; it is also curious, but highly satisfactory, that the congestions or embolisms follow one another in point of time, otherwise there would be very little chance for the patient to recover. I would urge the practitioner to continue the sulpho-carbolate in small doses, first with the ammonia, and, after a time, with quinine, avoiding altogether the mineral acids, as such

appear to allow of a more rapid development of resting spores and a further relapse. As regards the local treatment of diphtheria, I have been accustomed to treat it on scientific principles, and attack the disease just as my gardener attacks the oïdium upon grapes and parasitic diseases upon vegetables generally. I apply the powder of washed sulphur to the throat very frequently, blowing it into the fauces, and applying it by means of a brush with a little glycerine or honey, alternating the application with a little sulphurous acid in solution. It is not a painful application, it destroys the mycelium and the ordinary spores which produce the disease; if this is done quickly, so that the growths do not penetrate to the deeper tissues, no resting spores will find admission to the body, and there will be no following sequelæ. I have also been accustomed to advise that creasote be kept in the room, so that the air may be placed in that condition which diminishes, if it does not destroy, the growth and development of hyphomycetous fungi.

LAPAROTOMY FOR INTERNAL STRANGULATION; WITH REMARKS ON THE OPERATION.

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I HOPE that this record may be found to embody points of interest in the clinical history, diagnosis, and treatment of this form of intestinal obstruction, and may thus add another link to the chain of evidence which is rapidly accumulating on the subject.

On Saturday, Sept. 23rd, 1882, I saw Mrs. E—— for the first time, in consultation with her medical attendant, Dr. Jackson. She was forty-one years of age, the mother of four children, and furnished the following history. On the previous Monday morning, whilst dancing a little grandchild up and down by its hands, and necessarily straining somewhat in the act, she suddenly felt an acute pain in the lower part of the abdomen, became faint, and vomited the contents of the stomach. She had a small evacuation of the bowels the same evening, but it was quite limited to the contents of the lower intestine, and with that exception nothing either fæcal or gaseous had since passed. Everything taken into the stomach had been rejected, though sometimes she enjoyed an interval of eight or ten hours without sickness. She had an anxious, pained expression, but there was no shock or symptom of peritonitis; pulse 90, full and strong; tongue furred and creamy; abdomen was distended and tympanitic, but not painfully tense, and no tumour or marked inequality could be found in it. Pain, which was never absent, recurred in frequent paroxysms, specially referred to the left of the umbilicus. As she said, pressing the spot with her hand, nothing could pass there; she wanted something moved from there. Vomiting was taking place in large quantities, but at long intervals, the vomited matters being intestinal, but not fæcal in odour. Further inquiry elicited that she had suffered from pain after food and constipation for several years; she was subject to flatulent dyspepsia, pain in the abdomen, and at times experienced great difficulty in getting an action of the bowels. Her daughter said that at these times she would remain as long as half an hour at stool, returning from it quite ill and faint. It was positively established, however, that within twenty-four hours of the seizure she was quite well, and passed a well-formed motion. The urine was being secreted in greatly diminished quantity. On the 21st she was seen by a physician, who prescribed morphia subcutaneously with ice, and indicated the probable need of an operation. This treatment gave considerable relief, and calmed both pain and sickness.

On the 24th the patient's condition was much the same as on the previous day, but the vomit was slightly fæcal. To the left of the umbilicus an inflated intestinal coil caused the abdomen to look more prominent at that spot than elsewhere, but there was no tumour or dulness. The patient being under the influence of ether, I explored the rectum, and my first impression was that the obstruction might lie there, for the finger appeared to enter a cul-de-sac and on withdrawal was smeared with bloody mucus. However, after injecting a pint of warm water all feeling of obstruction had disappeared, and it was shown that the blood and mucus were due to piles, from which she suffered. She retained in all three pints of fluid, which shortly regurgitated unchanged. While injecting, I auscultated along the course of the colon back to the cæcum, but was not sufficiently conversant with this test to distinguish the gurgling from the ordinary intestinal sounds produced by increased peristalsis. The history and examination seemed to warrant the following conclusions:—1. That obstruction set in suddenly during straining, and had existed for six days. 2. That it was complete as regards the intestinal contents. 3. That it was situated in the small intestine. 4. That hitherto there was no symptom of peritonitis or arrested circulation. 5. That medical treatment was unable to afford relief. The diagnosis appeared to lie between intussusception, strangulation by a band, and volvulus. Against the former there was the patient's age, the absence of tumour, and tenesmus, and I regarded the symptoms as decidedly too subacute for twisted intestine. It was necessary also not to overlook the possibility of sudden culmination of symptoms in a case of chronic disease, such as contraction of the intestine by bands, adhesions, or chronic stricture. Her age and the previous history of difficult defecations gave probability to this view, but it again appeared negatived by the fact that within twenty-four hours of seizure she was in excellent health and passed a normal motion. An operation was recommended, and, consent having been given in the afternoon, was performed on the 24th of September. In this I was assisted by Dr. Jackson, who administered ether, and by Mr. A. F. Hawkins. The abdomen was opened by median incision sufficiently to admit three fingers, but as the cause of obstruction could not be felt, the wound was enlarged sufficiently to admit the hand. At first no progress could be made amongst the dilated intestinal coils, which welled up and obstructed every movement of the hand; but by continuing the search towards the left colon I was able to identify that part of the large intestine by its attached mesocolon. The intestines were not allowed to prolapse through the wound, and no attempt was made to follow the continuity of their distended coils, such being evidently too difficult, tedious, and dangerous to be of practical value. Finding the colon empty, I carried the hand gently downwards and across the pelvis, exploring more fully the seat of pain below the umbilicus, and here I was soon arrested by something which there was no difficulty in making out to be a strong cord-like band buried in a loop of small intestine. By manipulation and gently pressing back the surrounding intestines, it was brought to the surface and fairly exposed to view. It was then seen to be situated at the back of the abdominal wall, to the left of the sacral promontory. The band appeared to be one of the appendices epiploicæ from the sigmoid mesocolon, which instead of floating free in the abdominal cavity had become attached by its loose extremity to the peritoneum near the sacral promontory, thus forming an arch or ring about an inch and a quarter in diameter, the plane of which was horizontal in direction. Into this trap there had slipped from above a loop of the ileum, the whole length of which would be from eight to ten inches. This portion of intestine was pale, flaccid, and empty, whilst on the other side of the ring the coil towards the duodenum was greatly dilated and of deep red colour. At the point of constriction the intestine was grooved by the band, but was not ulcerated or inflamed. There was no peritonitis, the abdomen containing a little pale serum only. I am not able to verify the exact nature of the band, but it was a hollow tube, and in all probability a diverticulum from the neighbouring intestine, seemingly the sigmoid flexure whence its larger end appeared to spring. The smaller end was lost in the mesentery or peritoneum at the back of the abdominal wall. The average thickness was a quarter of an inch, and its condition was noteworthy. It was frayed and ulcerated on the surface from its own tension and the compression to which it had been subjected. It was divided between a double ligature, and the collapsed intestine filling up soon righted itself. No further exploration or replacement was made, the abdomen being closed by sutures after the little necessary cleaning.

Sept. 25th.—Has been perfectly relieved by operation; all sickness and pain gone; pulse 104; expression good.—26th: Improvement maintained; abdomen much reduced in size; pulse 96; flatus freely passed.—27th: Up to to-day every point has been satisfactory, but there has been no action of

the bowels. She complains of a little pain at the right side of the wound, which has healed. As the discomfort might be due to fæcal accumulation and flatus, a large enema was given, which brought back some liquid fæcal matter, but gave little relief.—28th: She complains of fixed pain to the right of the umbilicus, and there swelling which had disappeared, has returned slightly; pulse 104; no sickness; restless and anxious-looking.—29th: Pain and swelling increasing. A copious enema brought away a large quantity of liquid fæcal matter, which also continued to escape from her during the day, and though the abdomen generally was relieved, there was no relief to the part in question; pulse 110, with increasing anxiety and depression.

Oct. 1st.—Symptoms more severe, indicating approaching collapse. Fæcal matter and flatus continued to escape from the rectum, but without relief to local pain. She died on the following day, the ninth from the operation.

Unfortunately it was only possible to make an examination of the wound. On removing the stitches it was found that a coil of small intestine to the right was much inflated and of deep red colour, and it was further seen to be in this condition from the twisting of a loop of the ileum on its own axis. At the angle of bending the intestine was in a state of local gangrenous enteritis. There was no mark of groove or furrowing by the band, and all that could be seen of this was some shrivelled discoloured tissue. Peritonitis was not general, but was intense at the angle of torsion. It is difficult to understand the mechanism of this twisting. It did not exist at the time of operation, and symptoms did not appear for a day or two afterwards. Presumably it occurred during spontaneous movements of the loop which was liberated, but I do not think this portion of intestine identical with that which afterwards became twisted. I think this latter was much more probably the part next to the band, on the duodenal side. There was more congestion and distension here than elsewhere. As the rectification after division of the band appeared complete and satisfactory, I did not consider it necessary or prudent to subject the intestines to more extended examination. I cannot call to mind any point I should wish to retrace, but I certainly do regret not having reopened the abdomen.

Referring to the subject of diagnosis, it is striking to notice how far the symptoms coincide with such as we should expect to exist under the conditions revealed at operation. The sudden seizure whilst in good health, and during straining, coincides with the moment when the intestine became entangled, and the localised pain indicated the region; the previous attacks of constipation and illness were probably due to occasional entanglements in a similar way, though in all these previous ones spontaneous replacement took place. The state of the intestine, rather pale and empty, with the general subacute character of symptoms, is explained by the size and thickness of the band, which was not tense enough to arrest the circulation of the gut. But before operation diagnosis was little more than speculation. The only point which did appear to be well established was the fact of the obstruction being in the small intestine, but even this was problematical. On one occasion I encountered a stricture of the large intestine in a patient in whom the symptoms appeared to point equally strongly in the same direction.

Granted, however, the condition diagnosed, the necessity for early operation appears almost as great and urgent as in ordinary external strangulated hernia. But there is one preliminary measure I should wish to adopt under similar circumstances—it is that of inversion of the patient. It appears just possible that in this position the loop might have withdrawn either by gravitation or peristaltic movements. The condition of the band, frayed and ulcerated, also gave indication of a possible method of spontaneous relief—viz., the giving way of these structures by their own tension and the pressure to which they are subjected. Though this form of obstruction, the true internal hernia, in which the bowel is constricted by the edges of a natural or acquired orifice, is that for which laparotomy is most typically applicable, the success hitherto achieved has not been brilliant. One triumph, such as that recorded by Mr. Alder Smith,[1] ought to go far towards vindicating the operation. Other successes are recorded, and many of the fatal cases have been under circumstances which rendered operation almost hopeless.

In performing the operation of laparotomy for obstruction the surgeon will find it of the greatest value to have a method or system of proceeding. The difficulties that meet the operator are peculiar and distinct, and arise from the great tension within the abdominal cavity and gaseous distension of the intestines. As almost to the last it remains uncertain whether it is to be completed by artificial outlet, it is certainly advisable to select for the incision any part of the abdominal wall which may be indicated by well-marked or suspicious tumour. I had great inconvenience on one occasion from not doing this, but generally there will be nothing to contraindicate the median line as the best point of section. The wound should be just large enough to admit the hand, and through it a systematic attempt is to be made to explore the cavity. At first nothing can be distinguished amid the distended coils which well up and obstruct every movement of the hand. Fortunately most forms of obstruction are close by, and readily accessible. Congenital bands and diverticula are mostly situated on one side or the other of the sacral promontory, and within easy reach of the hand. It is convenient to explore this region first, carrying the hand into the pelvis, and, if nothing is found, to feel for some portion of the intestine, which is readily identified, as the descending colon or the cæcum. The large intestine can always be identified by its attached mesocolon, and its condition, whether full or empty, is a further index to the position of the obstruction. As the cæcum receives the stress of the accumulation in cases of obstruction in the large intestine, the remainder being often nearly empty, this portion is to be specially explored, and if found empty the hand passed from it over the ileo-cæcal valve on to the small intestine, where a gall-stone, if impacted, would be readily detected, and the tumour formed by an intussuscepted intestine would certainly be felt.

The exploration in many cases will have been conducted thus far without escape of the abdominal contents. In some cases, however, room cannot possibly be made for the hand except by displacement of intestine or by an amount of pressure which it would not be prudent to subject the inflamed intestine to. Under these circumstances, or if the cause of obstruction remains unrevealed after exploration, the present method of search had better be abandoned, and an attempt made to follow the continuity of an intestinal coil. Before withdrawing the hand, however, the operator can readily explore the ordinary hernial apertures if there is the slightest suspicion of their being engaged. It is of the greatest importance to avoid prolapse of the contents, as it is often found impossible to replace the tympanitic intestines. In a case in which I experienced this the difficulty was owing to the fact that there was no cavity to put them in. The abdomen having been freely opened had ceased to be a cavity, and could not retain the intestines until this was remade by closing up the wound. Then the difficulty was overcome, and the intestines were gradually replaced. The attempt to relieve the tension by puncture is both useless and dangerous, as an opening large enough to emit gas permits leakage of the liquid contents. To follow the continuity of an intestinal coil, search is to be made for a portion that is collapsed. This will be found in the pelvis, at the lowermost part of the cavity. It is hopeless to follow the inflated intestine. The subject is dwelt upon and explained at length in an instructive case reported by Mr. Kingston Fowler,[2] but he errs in concluding that no record has hitherto been made of it. More than one instance will be found in recent contributions to the medical journals and societies; and in March, 1883, I drew attention to it in the *Birmingham Medical Review*. If a band is discovered its division should be made between a double ligature. The intestine is to be dealt with on the same principles that guide us in ordinary hernia. If simply furrowed by the band and discoloured, it is to be liberated and the abdomen closed. If clearly ulcerated and hopelesaly damaged, the injured portion is to be brought out at the lower angle of the wound for an artificial opening. Supposing the operator finds the case to be one of constriction by adhesions of a chronic nature, causing angular bends and constrictions, he should be very sparing in his efforts at their separation. The intestine in these cases is easily torn; but, apart from this danger, there is a probability of failure owing to the fact that a second band may, and frequently does, exist, and escape the operator's search, or that the intestine is permanently constricted. The abdomen has frequently been reopened for this cause, and a second obstruction found. These are essentially cases for enterotomy,

[1] British Medical Journal, May 26th, 1883.

[2] Vide THE LANCET, June 30th, 1883.

which was the appropriate operation from the first if a diagnosis could have been made, and by it the surgeon will probably require to complete his proceedings.

This patient's death under the circumstances was very grievous, as a case presenting conditions more favourable to recovery can hardly be looked for, and I would ask my readers to regard the untoward termination as an exceptional and accidental incident. Such it appears to me, and for the sake of the future of the operation I would rather dwell on the indications for treatment which were met by the operation and the early promise of success which this afforded.

Birmingham.

A FEW REMARKS UPON THE VARYING RESISTANCE OF THE HUMAN BODY.

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The ordinary method of examining the irritability of nerves and muscles by the galvanic current is open to many errors, as no attention is paid either to the condition of the battery or, what is more essential, to the parts examined. In this paper I propose to consider how errors are likely to arise by not taking into account the conductivity of the body at the time of observation, also to show that the galvanic current alters the resistance of the body differently in health than in disease, and finally to add a few remarks concerning the diffusion of the current through the body, in order to explain a fallacy that may arise during the observations made with the assistance of a galvanometer, as this is the only instrument in our present state of knowledge that affords a means of arriving at anything like an accurate result. For the sake of those readers who are not conversant with electro-diagnosis, it may be convenient to state in as few words as possible the manner commonly adopted for the examination of the nerves and muscles. One electrode moistened with warm salt and water is fastened somewhere or other in the middle line of the body, while the other electrode similarly moistened is placed over the nerve or muscle whose electro-irritability it is desired to ascertain. Directly the skin is thoroughly soaked a certain number of cells are put into action, and the least number that produces the requisite muscular contractions is noted, when the electrode over the nerve or muscle is first negative, and then positive both at the opening and the closing of the current. When the number of the cells in each instance has been ascertained, the electrode that has been placed over the muscle or nerve is removed to the corresponding spot on the opposite side of the body, while the other electrode remains stationary in the middle line of the body, and the number of the cells necessary for the production of muscular contractions is also noted. Subsequently a comparison is made between the number of cells required to cause contractions in the different instances respectively on the two sides of the body. By this means we are supposed to have arrived at a comparison (one we consider very crude and unscientific) between the two sides. When one side is healthy and the other diseased, if there should be any difference in the strengths of the currents needed on either side we are told we have the electro-diagnosis in terms of number of cells. When, however, both sides are affected we have no standard to go by, and "in such cases it is necessary to compare the muscles to a healthy standard, which is generally to be found in the memory of any physician of tolerable experience."[1] Here we have an admission of the inaccuracy of the method. Besides, as I have often verified by experiment, the strength of the current passing when the electrodes have been placed upon the body as just described is in disease seldom what it appears to be when calculated without a galvanometer, because of the inequality of the resistance on the two sides. It is also certain that no two observations, after allowing for personal experimental errors, are capable of being compared one with another, because the electro-motive force, the internal resistance of the battery, and the resistance of the body are all altering from day to day. These variations are still more marked when batteries of different kinds of cells are employed.

1 Poore: Electricity in Medicine and Surgery, p. 90.

To return to our subject proper. We find that there are slight periodical changes in the resistance of the body during health, and that these fluctuations depend mostly upon the condition of the skin. If we place the electrodes, as above described, upon a healthy person, when the one fastened on the middle line of the body has thoroughly moistened the skin, and if we place the other upon the dry skin, we find that the body offers an excessive resistance to the current. This resistance we will call A. Next, let the skin beneath the electrode be completely moistened, then we shall find the resistance considerably reduced. This we will call B. Again, let a current of moderate strength pass for thirty, or forty, or more seconds, and we shall find that there is a still further reduction of resistance. This we will term C. The letters A, B, and C will in this paper always refer to these resistances. Of these we find that during health A varies much, while B and C change but little, the latter being the most constant. In disease, however, both B and C frequently depart greatly from their normal standards, whilst the time the current takes to reduce B to C is very uncertain. Of the different tissues in the body the epidermis in health offers the greatest resistance; so great, indeed, that it may be ranked among the non-conductors. The current penetrates it through the sweat and sebaceous glands. It conducts worse in those parts where it is thick than where thin, consequently the soles of the feet and the palms of the hands resist more than any other part, while as a rule the face the least. Covered portions of the body conduct better than the exposed. Besides, there are personal peculiarities, inasmuch as the skin offers a higher resistance in old age than in middle age, and here, again, than in childhood; besides showing greater resistance in men than in women, and generally speaking in the robust than in the delicate. Directly the current has traversed the epidermis it meets in the corium a fresh and changeable resistance, the variation being chiefly dependent upon the amount of blood flowing through the capillaries. The quantity is greater, and on this account the electric conductivity is augmented, whenever the sweat glands are secreting freely and when the surface is warm, or even by the presence of salt in the water employed for moistening the skin. The capillaries are still more expanded when either the dilating nerves are excited or those causing contraction of the vessels are paralysed either by the galvanic current or otherwise. In this paper I premise the existence of actively dilating vaso-motor nerves, although they have been only proved to exist in a few parts of the body; nevertheless their occurrence in all is extremely probable, and without their help we cannot explain certain facts. Underneath the skin is a thicker or thinner layer of adipose tissue. As this is a first-rate conductor and transmits the current with ease, and, when there is a thick stratum, it absolutely causes an impediment to the current from reaching the deeper structures. Unless this fact is recollected it may seriously modify our diagnosis. This property of the adipose tissue I propose to term pseudo-resistance, and will consider later on. I have now referred to all the resistances the current is likely to meet with before it can affect the nerve or muscle. As the supply of blood changes the electrical conductivity of the tissues, if the galvanic current either stimulates the dilating quicker or at least more powerfully than the contracting vaso-motor nerves, we have an explanation of the fall of the resistance, B to C, when every precaution has been taken to reduce the resistance of the skin to a minimum by the use of warm salt and water. This property of the current enables us to know the condition of the local bloodvessels, and consequently that of the nerves in a way we are unable to discover by any other means, as they are regulators of the flow of blood through the capillaries. For instance, when the resistance C is much lower than B, then we know that the arterioles are in a state of contraction, but the nearer the resistance C approaches to B the nearer are the vessels expanded to their full extent. The constant current affects almost entirely the local vaso-motor nerves, although sometimes there is a slight alteration in the general arterial tension, as detected by the sphygmograph when applied to the radial artery during the passage of the current, after allowance has been made for the position of the electrodes and the strength of the current. Before I proceed to the changes disease produces in the conductivity of the body, I will describe the plans I have adopted for measuring the resistances. The necessary instruments are a battery, a fairly accurate and quick acting galvanometer, a set of resistance coils, and electrodes. I for this purpose use

my galvanometer, which has been fully described elsewhere.[2] This instrument has a vertical astatic needle; attached to the axis is a small mirror for reflecting a beam of light upon the scale, thus registering very small movements of the needle. It has a set of shunts to vary its sensibility, and the needles are weighted so that every division marked upon the scale corresponds to a definite current in terms of the B A units. Besides, for the especial purpose of calculating resistance the galvanometer when unshunted has a resistance of exactly 1000 ohms. Although this instrument is by no means perfect, yet its rapidity of action is such that no one can object to it on the plea of giving extra pain to the patient from the time the needles take to come to rest.

We fasten one electrode upon some convenient spot in the middle line of the body, and when the skin has become completely moistened we set in action a convenient number of cells, and place the second electrode over a limb, &c., and we notice the deflection of the galvanometer when unshunted (1) before the skin has become wetted by the second electrode, (2) when it has become thoroughly moistened, (3) after a current has been passing for a short time. Next, we insert into the circuit a known convenient resistance, and connect the two electrodes together, and again we note the deflection of the galvanometer. By this means as the electromotive force remains constant the resistance of the body + 1000 ohms (the resistance of the galvanometer) can be calculated by a simple rule-of-three sum, because the resistances are inversely according to the deflection. Perhaps an example will make this plain. Suppose one electrode is fastened over the sacrum and the other upon the thigh, and if with six cells the galvanometer gives a deflection of forty-eight divisions, but when 2000 ohms are inserted and the electrodes are joined together the deflection is fifty divisions, we have, taking x as the resistance of the body,

$$48 : 50 :: 2000+1000 : x+1000$$
$$\therefore x+1000=3125 \text{ and } x=2125$$

Thus the resistance between the two electrodes when placed on the body is as 2125 ohms. In actual practice, however, we must know the internal resistance of the battery, and also that offered by the fittings and electrodes. This complicates the calculation a little, but I have done it in all the experiments I quote. For the method of finding these resistances I refer my readers to any of the better text-books on ordinary electricity. This plan of investigation is open to very serious defects. 1. The specific resistance of any one structure cannot be ascertained. The only way of doing this in our present state of knowledge is to insert needles into the tissues. For clinical purposes pain prevents this. 2. The size of the electrodes produces changes in the results, which are not always in proportion to the areas of the electrodes, owing to the complicated resistance the current has to traverse. 3. And the most important is the distance between the two electrodes, as it prevents any comparison being made between two cases—for instance, one an adult and the other an infant—when one electrode is placed on the sacrum and the other upon the thigh.

Although this method gives very valuable information, yet we often use a more complicated one, from which we can calculate the resistance of the epidermis per square inch and the resistance of the subjacent tissues, and can localise our observations. We employ flat metal electrodes an inch in diameter, covered with a piece of flannel moistened with warm salt and water. These are separated by being passed through holes in a piece of wood boiled in paraffin, first at three inches, and then at one inch and a half, and they are placed upon the body, and the resistances measured at each of the distances. If A, B, and C are the resistances at three inches apart, and A′, B′, and C′ those at one and a half inches, we can by a simple equation find x, the resistance of the epidermis from A and A′, and of y, the resistance of the subjacent tissues; and from B and B′ we can obtain x', the resistance of the epidermis when moistened, also y of the subjacent tissues; and from C and C′ we find again x' and y', that of the subjacent tissues after the current has been flowing. From this we see that x can be obtained from A, and A only; y from B and B′, also from A and A′, while x' from B and B′, and from C and C′; and y' from C and C′ only. Thus we have a means of correcting experimental errors. Unless very great precautions have been taken, we shall find that y when calculated from B and B′ is less than when obtained from A and A′, because of the influence the warm salt water exerts upon the capillaries. In practice we find it more accurate to use the salt and water only tepid, and to measure B and B′ before the skin is completely moistened from which we can find y, while we obtain x' from C and C′. If we want x, we must find it from A and A′; but as this is of very little practical use, we may in most cases omit this portion of the measurement. $\frac{x}{2}$ and $\frac{x'}{2}$ will be the resistances of the epidermis per square inch in these calculations, as the diameter of each electrode is one inch. For an example, we will take a case of musculo-spiral paralysis.

CASE 1.

A 58,800 ohms, A′ 56,470 ,, } $\therefore y = 2(2330) = 4660$ ohms and $x = 54140$ ohms.

because $x + y = 58,800$
$x + \frac{y}{2} = 56,470$

B 7388 ohms, B′ 5054 ,, } $\therefore y = 2(2334) = 4668$ ohms and $x' = 2720$ ohms.

C 5513 ohms, C′ 3498 ,, } $\therefore y' = 2(2015) = 4030$ ohms and $x' = 1483$ ohms.

We know here that epidermis has not been completely soaked in B and B′, and that the true resistance is 1483 ohms, so that when the correction is made,

B 6151 ohms, B′ 3817 ,, } $\therefore y = 2(2334) = 4668$ ohms and $x' = 1483$ ohms.

From this series of calculations we say that the

Epidermis per square inch before moistening	=	27,070 ohms.
Epidermis per square inch after moistening	=	741·5 ,,
Tissues beneath electrodes when three inches apart before passage of current	=	4668 ,,
Tissues beneath electrodes when three inches apart after passage of current	=	4030 ,,

In disease the conductivity of the integument, or of the parts beneath, or of both together, often presents a great departure from what it does in health. To illustrate this fact, we may quote a case admitted into St. Thomas's Home under the care of Dr. Edmunds. He could obtain no reaction with a Leclanché battery of forty cells in fair, but not in the best, order. Afterwards we measured the irritability of the muscles, and found that they responded to a current of 2·5 mille ampères when we used another battery and a galvanometer. In disease it is nothing unusual to require this strength of current, but in this case we could not reduce the resistance to less than 15,000 ohms when a very large electrode was placed upon the middle of the thigh, and another equally large over the pubes. This was in round numbers six times that of health. In other cases we find that the resistance is diminished.

(To be concluded.)

[2] St. Thomas's Hospital Reports, vol. x.

THE THERAPEUTICAL DRINKING OF HOT WATER; ITS ORIGIN AND USE.

BY EPHRAIM CUTTER, M.D. NEW YORK.

THE therapeutical drinking of water at a temperature of blood heat to 150° F. having become popular enough to call for an allusion to it in THE LANCET, as a valuable American contribution to medicine, and since it seems to be used at random from the directions of its distinguished introducer, I have thought that the origin and proper use of hot water should become history. The practice dates back to 1858, when Dr. James H. Salisbury of this city concluded a series of experiments on feeding animals to ascertain the relations of food as a cause and cure of disease. Besides swine, he experimented on men. These he took in companies of six healthy labourers, placed under military discipline, which he enforced himself. He also ate and drank as they did. The men were kept on single articles of food, coffee, and water. Among these articles were beans, beef, bread, chicken, crackers, fish, lobster, mutton, potatoes, rice, turkey, oatmeal. The blood, urine, and fæces of the animals were carefully examined microscopically and chemically daily without any preconceived idea to develop, but simply to ascertain facts and develop ideas from those facts. In this manner he went through the whole range of food to show the permanent value when lived on exclusively and singly. Among other things, he found that the fermentations of food, and the products of these fermentations, were the chief primary factors in producing the diseases which arise from unhealthy alimentation. With the idea of removing these diseases by removing their causes, he employed hot water in order to wash out the saccharic, acetic, butyric, hydrosulphuric, and lactic acids, and sulphide-of-ammonium fermentation-vegetations (yeasts), from the stomach and intestines. At first he tried cold water on his men to remove these products of fermentation, but the cold water caused distress, pain, and colic, so he increased the temperature of the water. Lukewarm water made them sick at the stomach, and excited peristalsis upward. The temperature of the water was increased to hot—110° to 150°. This was well borne, and afforded a feeling of agreeable relief, which thousands since testify to. The hot water excites normal downward peristalsis of the alimentary canal, washes down the slime, yeast, and bile through its normal channels, washes out the liver and kidneys, and the bile is eliminated through the bowels, and not through the blood *vid* the kidneys. It was some time before the proper times of administration, and proper number of ounces of hot water, and the proper number of ounces to be drunk at meals could be settled in order to obtain the best results. These directions may be found published in connexion with the Salisbury plans for the treatment of consumption, Bright's disease, diabetes, fibroids, sclerosis, and colloid diseases. At the risk of repetition, and for the sake of a more thorough understanding of the subject, these details will be plainly and simply given.

1. *Directions for using Hot Water according to the Salisbury Plans.*—The water must be hot, not cold or lukewarm. By hot water is meant a temperature of 110°–150° F., such as is commonly liked in the use of tea and coffee. This is to excite downward peristalsis of the alimentary canal. Cold water depresses, as it requires animal heat to bring it up to the temperature of the economy, and there is also a loss of nerve force in this proceeding. Lukewarm water excites upward peristalsis or vomiting, as is well known. In cases of diarrhœa the hotter the better. In cases of hæmorrhages the temperature should be at a blood heat. Ice water is disallowed in all cases, sick or well.

2. *Quantity of Hot Water at a Draught.*—Dr. Salisbury first began with one half pint of hot water, but he found it was not enough to wash out, nor to bear another test founded on the physiological fact that the urine of a healthy babe sucking at the breasts of a healthy mother, the best standard of health, stands at a sp. gr. varying from 1015 to 1020. The urine of the patient should be made to conform to this standard, and the daily use of the urinometer tells whether the patient drinks enough or too much hot water. For example, if the sp. gr. of the urine stands at 1030, more hot water should be drunk, unless there is a loss by sweating. On the other hand, should the sp. gr. fall to 1010, less hot water should be drunk. The quantity of hot water varies usually from half to one pint, or one pint and a half at one drinking. The urine to be tested should be the urina sanguinis, or that voided just after rising from bed in the morning, before any meals or drinks are taken. The quantity of urine voided in twenty-four hours should measure from forty-eight to sixty-four ounces. The amount will, of course, vary somewhat with the temperature of the atmosphere, exercise, sweating, &c., but the hot water must be given so as to keep the specific gravity to the infant's standard—to wit, 1015–1020. The urinometer will detect at once whether the proper amount of hot water has been drunk, no matter whether the patient is present or absent. Another test is that of odour. The urine should be devoid of the rank urinous smell so well known but indescribable. It should be like the babe's urine, free from odour, and deposit on cooling, and the colour like that of champagne. The Salisbury plans aim for this in all cases, and when the patients are true and faithful the aim is realised.

3. *Times of taking Hot Water.*—One hour to two hours before each meal, and half an hour before retiring to bed. At first Dr. Salisbury tried the time of half an hour before meals, but this was apt to be followed by vomiting. One hour to two hours allows the hot water time enough to get out of the stomach before the food enters or sleep comes, and thus avoids vomiting. Four times a day gives an amount of hot water sufficient to bring the urine to the right specific gravity, quantity, colour, odour, and freedom from deposit on cooling. If the patient leaves out one dose of hot water during an astronomical day, the omission will show in the increased specific gravity, as indicated by the urinometer, in the colour &c. Should the patient be thirsty between meals, hot water can be taken any time between two hours after a meal and one hour before the next meal. This is to avoid diluting the food in the stomach with water.

4. *Mode of taking the Hot Water.*—In drinking the hot water it should be sipped, and not drunk so fast as to distend the stomach and make it feel uncomfortable. From fifteen to thirty minutes may be consumed during the drinking of the hot water.

5. *Length of Time to continue the Use of Hot Water.*—A period of six months is generally required to wash out the liver and intestines thoroughly. As it promotes health, the procedure can be practised by people in health throughout life, and the benefits of cleanliness inside be enjoyed. The drag and friction on human existence from the effects of fermentation, foulness, and indigestible food, when removed, give life a wonderful elasticity and buoyancy, like that of the babe above alluded to.

6. *Additions to Hot Water.*—In case it is desired to make it palatable, and medicate the hot water, aromatic spirits of ammonia, clover blossoms, ginger, lemon-juice, sage, salt, or sulphate of magnesia, are sometimes added. Where there are intense thirst and dryness, a pinch of chloride of calcium or nitrate of potash may be added to allay the thirst and leave a moistened film over the parched and dry mucous membrane surfaces. When there is diarrhœa, cinnamon, ginger, and pepper may be boiled in the hot water, and the quantity lessened. For constipation a teaspoonful of sulphate of magnesia, or half a teaspoonful of taraxacum, may be used in the hot water.

7. *Amount of Liquid to be drunk at a Meal.*—Not more than eight ounces. This is in order not to unduly dilute the gastric-juice or wash it out prematurely, and thus interfere with the digestive processes.

8. *The Effects of Drinking of Hot Water as indicated are:*—The improved feelings of the patient. The fæces become black with bile washed down its normal channel. This blackness of fæces lasts for more than six months, but the intolerable fetid odour of ordinary fæces is abated, and the smell approximates the odour of the fæces of healthy infants sucking at healthy breasts; and this shows that the ordinary nuisance of fetid fæces is due to a want of a proper washing out and cleansing of the alimentary canal from its fermenting contents. The urine is as clear as champagne, free from deposit on cooling or odour, 1015 to 1020 sp. gr., like an infant's urine. The sweat starts freely after drinking, giving a true bath from the centre of the body to the periphery. The skin becomes healthy in feel and appearance. The digestion is correspondingly improved, and with this improvement comes a better working of the machine. All thirst and dry mucous membrane disappear in a few days, and a moist condition of the mucous membrane and skin takes place. Ice-water in hot weather is not craved; and

those who have drunk ice-water freely are cured of the propensity. Inebriety has a deadly foe in this use of hot water.

9. *Summary of General Considerations on the Therapeutical Drinking of Hot Water.*—(*a*) Foundation for all treatment of chronic diseases. (*b*) Excites downwards peristalsis. (*c*) Relieves spasm or colic of the bowels by applying the relaxing influence of heat inside the alimentary canal, just as heat applied outside the abdomen relieves. (*d*) Dilutes the ropy secretions of the whole body, and renders them less adhesive, sticky, and tenacious. (*e*) Inside bath. (*f*) Dissolves the abnormal crystalline substances that may be in the blood and urine. (*g*) Necessary to have the hot water out of the stomach before meals. (*h*) Its use is to wash down the bile, slime, yeast, and waste, and have the stomach fresh and clean for eating. (*i*) Promotes elimination everywhere. (*j*) If objection is made, it must be remembered that we are 75 per cent. water. (*k*) The gas that sometimes eructates after drinking hot water is not formed by the hot water, but was present before, and the contractions of peristalsis eject it, or sometimes it is the air that is swallowed in sipping, as horses suck air. The amount of gas contained in the alimentary canal is larger than most are aware of, and yet it is not excessive, as it takes some time to eruct a gallon of gas from the stomach. This time can be tested by submerging a gallon jug filled with air under water and observing how long it will be in filling with water. (*l*) Some physicians have advised against hot water on the ground that it would burn the covering off the stomach. If this is so, then a denudation of the lining of the stomach for twenty-five years is compatible with a state of otherwise perfect health with no sign of illness for that period of time, and is also compatible with the numerous cures that have occurred under the use of hot water as a foundation during the past twenty-five years. Again, the same physicians drink tea and coffee at the same temperatures, and this act belies their warning and shows their inconsistence and want of consideration before speaking. (*m*) These dicta about the therapeutical drinking of hot water were founded on physiological experiments at the outset, verified in pathology and based on the experience derived from the treatment of thousands of cases since 1858.

Personal Estimate of the Founder of this Practice.—"If I were confined to one means of medication I would take hot water." It may be added that he has drunk hot water for twenty-five years.

Corroboration of the Writer.—The writer testifies that his own personal experience and observation corroborate the truth of these statements of the Salisbury plans.

New York, 1883.

CASE OF EXTIRPATION OF THE LARYNX.

By SURG.-MAJOR K. M'LEOD, A.M., M.D., &c.,
PROFESSOR OF SURGERY, CALCUTTA MEDICAL COLLEGE.

RAJ NARAIN, aged thirty-five, a Hindu clerk, resident in the district of Sylhet, was admitted into the Medical College Hospital on November 11th, 1882, suffering from aphonia and presenting a fungating tumour on the front of his neck, in the situation of the larynx, and to the right of the middle line of the neck. He had been in bad health for six or seven years, suffering from malarious fever, diarrhœa, and occasional attacks of dysentery. About a year ago his voice became husky, and during the last few months he has only been able to talk in whispers. He noticed a swelling over the right side of his larynx about seven months ago. Small and smooth at first, it soon broke through the skin and grew into a large irregular mass. Its growth seemed to be accelerated by sundry irritating applications which he had been advised to use. He could swallow without difficulty, did not suffer much pain, and had experienced no serious impediment to breathing.

On admission, he was found to be emaciated and anæmic. The liver and spleen were not enlarged. The heart sounds were normal, urine healthy, and no signs of lung disease were detected, though he had a harsh cough which caused him some annoyance and distress. A fungating tuberculated growth about the size of a child's fist existed on the front of the neck over the larynx, and rather to the right side of it. Deep ulcerous sulci separated the component tubercles of the mass. Superiorly the margin of the growth was hard and tuberculated inferiorly, and laterally it overlapped the surrounding skin, which was thick and apparently infiltrated. The alæ and cornu of the thyroid cartilage could be distinguished on the left side, but not on the right. The hyoid bone could be clearly defined throughout. The left side of the ring of the cricoid could be felt and the left lobe of the thyroid body identified, but on the right side both structures seemed to be embedded in the mass. The tumour rose and fell with the larynx during deglutition, but it could be freely moved with it over the subjacent and adjacent structures. On introducing the finger into the pharynx the epiglottis and root of the tongue were felt to be healthy, but a hard rough mass was felt behind the base of the epiglottis, which bled slightly after the examination. None of the lymphatic glands of the neck were either enlarged or indurated. The tumour was diagnosed to be an epithelioma implicating the larynx, the skin covering it, and probably the right lobe of the thyroid gland. As it appeared to be confined to these parts, and therefore capable of complete removal, it was resolved to attempt its extirpation. The man was in delicate health, but apparently free from any serious organic disease.

The operation was performed on Nov. 15th. Chloroform was cautiously administered through the mouth, and as soon as insensibility was procured an incision was made through the skin and subcutaneous fascia, all round the growth, at a distance from its base varying from a quarter to three-quarters of an inch, according to the apparent implication (infiltration) of the skin. The sterno-hyoid and omo-hyoid muscles of the left side were exposed and drawn outwards by a blunt hook. The sterno-thyroid was divided at its thyroid attachment. The corresponding muscles of the right side were found to be implicated in the mass, and were divided below it. The left side of the larynx was carefully cleaned, and the thyroid body examined. Its right lobe was found to be indurated, and formed part of the tumour, and its entire removal was considered necessary. Its anterior and lateral aspects were defined, and its attachments divided into four sections, around which a strong catgut ligature was passed by means of an aneurism needle. These ligatures were tied tightly, and the tissues divided on the thyroid side of them. The upper ligature of the right side accidentally slipped, and the superior thyroid artery of that side bled rather freely. It was, however, quickly secured. No bleeding of importance occurred during the operation, with this exception. The thyroid body was now lifted up and the trachea cleaned. The windpipe was carefully dissected off the œsophagus, fixed by a sharp hook, and divided just below the cricoid cartilage. Respiration became embarrassed for a moment, but was soon resumed, and chloroform was subsequently administered as required through the divided windpipe. The operation was completed with a pair of blunt-pointed scissors. Raising the larynx it was carefully separated from the pharynx. The thyro-hyoid membrane and muscle were cut through, the epiglottis severed at its base, the laryngeal attachments of the constrictors cut, and the mucous membrane of the pharynx divided beyond the limits of the tumour. The parts which had been removed were carefully inspected, and it was found that the morbid mass had been thoroughly extirpated. A few bleeding points required deligation, the orifice of the trachea was secured to the edges of the skin at the lower angle of the wound by four points of silk sutures, and the patient removed and placed under special watch. The operation occupied, from beginning to end, exactly one hour and ten minutes. The larynx was examined by Surgeon A. Barclay, who found it occupied with a large papilloma, which appeared to have originated in the mucous membrane, and grown outwards, implicating the skin and thyroid body secondarily. It had a dendriform skeleton of connective tissue, was very vascular, and its component papillæ were composed of large epithelial cells, some of which exhibited a tendency to form nest-like bodies. The surrounding skin was hypertrophied, but not infiltrated. The growth involved the right side of the larynx and glottis more extensively than the left. The patient suffered from shock, which was not very profound, and was succeeded by mild reaction. He was fed entirely per rectum for twenty-four hours, and then liquid food was administered by means of a funnel, india-rubber tube, and soft catheter, through the pharyngeal orifice. Rectal alimentation had to be discontinued on the fourth day, owing to severe irritation of the lower bowel. The wound, sloughy and chemotic at first, gradually became covered with healthy granulations, and underwent contraction and cicatrisation. The orifice of the trachea was raised up by the process to

near the middle of the neck. The pharyngeal orifice became funnel-shaped, and the posterior wall of the pharynx got gradually flattened out. There was no bronchial irritation of consequence. Twelve days after the operation a piece of suspicious-looking pharyngeal mucous membrane was removed by scissors. By the middle of December the wound had healed. Night attacks of fever and irritation of bowels had occurred, but on the whole recovery had been satisfactory, and the patient's condition never gave rise to much anxiety. His food and feeding were made the subject of careful attention, and he began to improve in condition. He could speak in a whisper when the hole in the front of his neck was closed by a bit of waterproof, or by the hollow of his own palm. He had been taught to keep the wound clean and free of saliva and mucus with the aid of a small looking-glass. In the middle of January he was sufficiently well to be able to appear at the Calcutta Medical Society. Shortly after this he was enabled to swallow by winding a narrow caoutchouc bandage round his neck, so as to close and overlap the wound. A tracheotomy tube was inserted in the tracheal opening, for safety whenever he was fed either by bandage or tube. He could now consume pultaceous food, such as soft rice, with ease and manifest enjoyment. Mr. W. T. Woods, surgeon dentist of this city, after taking an exact cast of the neck, contrived a vulcanite plug hollowed out posteriorly and secured in position by an elastic bandage,

which also enabled him to swallow soft food without much difficulty. Liquids were apt to be squirted under the edges of both contrivances, and were more conveniently administered by tube. An attempt was now made to restore to the man the power of vocal articulation by means of an artificial larynx. A suitable harmonium reed was in the first instance let into the roof of a tracheotomy tube, which was secured in position by means of a vulcanite shield, closing up the aperture in the neck. It was found that a great effort was required to produce sound, and that the reed very soon got clogged and voiceless with mucus. A tracheotomy tube was next converted into a whistle, the pitch of which could be raised or lowered by attaching a shorter or longer blind tube to the end of the outer opening of the tube. The apparatus gave excellent sound when free, but when placed in position the chamber of the pharynx was too small to produce resonance, and it was dumb. A conical tube was next let into the roof of the tracheotomy tube, and a plug containing a tongue-shaped reed in a boat-shaped case dropped into it. This answered perfectly, and the patient was exhibited at the April meeting of the Calcutta Medical Society, and his power of vocal speech fully demonstrated. The structure of the apparatus which enabled him to speak is clearly shown in the above diagram. The advantages of this apparatus, the perfecting of which was due to Mr. Wood's ingenuity, perseverance, and mechanical skill, were found to be:—1. Great ease of insertion and removal. 2. Production of sound with very slight effort. 3. The viscid mucus escaped through the tracheotomy tube. 4. The plug could be shaken out and cleaned. 5. Different notes could be produced by inserting plugs of different sizes, containing reeds of different length and breadth.

Meantime the poor man began to show symptoms of serious lung disease. He suffered from evening pyrexia and nocturnal sweating, and gradually lost flesh and strength. The discharge from the trachea became most copious and purulent, and his appetite failed. He slowly wasted and sank of exhaustion on the 3rd of May, 1883, five months and a half after the date of the operation.

On post-mortem examination both lungs were found œdematous and infiltrated with miliary tubercles, some of them caseating. There were two small vomicæ in the apex of the right lung, and the cavity of the left pleura contained a pint of fluid, the result of recent subacute pleurisy. Traces of dysenteric ulcers were found in the colon. No other disease of consequence existed, and there was no sign of recurrence of the tumour.

Calcutta.

AUTOPSY ON A CASE OF PROLONGED VOMITING.

BY H. WHEATLEY HART, M.R.C.S.

THE following case, recently under the care of Mr. Wm. H. Rix, surgeon to the Tunbridge Wells Infirmary, will, I think, be read with interest.

Mrs. E. J——, aged fifty-eight, had suffered more or less for twenty years from this distressing symptom, the characters of it being that frequently after food she suffered from a sense of pain and heaviness somewhat above the pit of the stomach, which continued until vomiting ensued. This, however, was not always so, as sometimes during a period of two or three days she would be tolerably free from both pain and sickness. On physical examination of both chest and abdomen, no signs had been discoverable; the urine contained no albumen, and the normal functions, except those of taking food and digestion, had been carried on well. The patient died on July 29th from gradually increasing anæmia and inanition.

At the post-mortem the pleuræ were found firmly adherent throughout, but the lungs presented no signs of pressure; the pericardium was also intimately adherent where it met the chest-wall, and also to the whole of the surface of the heart; the left ventricle and aorta were considerably dilated; there were several bronchial glands much enlarged, and in a condition of calcareous degeneration. The mucous membrane of the stomach was fairly normal, with the exception of an area of undue vascularity along the lesser curvature; the organ itself was somewhat shrunken, while the cardiac orifice was excessively contracted, only just admitting the little finger, and that with difficulty; there was, however, no thickened or indurated tissue around the contraction. The œsophagus was enormously dilated above this point of stricture, containing a large quantity of grumous fluid. It occupied a position to the right of the vertebral column, lying in the hollows formed by the angle of the ribs. At the spot where the dilated œsophagus came in contact with the diaphragm it was bent on itself nearly in the form of a right angle, forming a curve as it passed from the right side of the chest to the opening in the diaphragm on the further side of the mesial line. On removing the organ its shape was found to have a remarkable resemblance to an ordinary stomach; it had a gross cubical capacity of twenty-five fluid ounces, and the muscular tissue was found to be very much hypertrophied. The kidneys were slightly granular, but the other organs fairly normal.

The point of interest is that such a partial stricture should have caused so enormous a dilatation above it, and the strong probability is that it was due to the adhesions, existing in the thorax, undergoing gradual contraction, and so causing a deviation of the œsophagus from the direct line at its passage through the diaphragm, and thus was produced a dragging on this structure against the tendinous fibres of the diaphragm, converting a canal, the comfortable patency of which is so necessary to health, into a condition of obliquity and stenosis, varying according to the movements of the diaphragm and the contents of the thoracic cavity.

Tunbridge Wells.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

KING'S COLLEGE HOSPITAL.

A CASE OF LOOSE CARTILAGE IN THE KNEE-JOINT.

(Under the care of Mr. ROYES BELL.)

FOR the notes of this case we are indebted to the patient, whom, with Mr. Bell, we cordially congratulate on the result.

Mr. C. S——, a medical student at King's College, received a severe kick when playing football in November last, and was laid up for some weeks with synovitis of the left knee-joint. About the middle of March, owing to a fall, synovitis came on a second time, for which the knee was blistered. At this time there was an unpleasant scraping of a small, hard body above the patella. There was, however, no serious inconvenience until the middle of May, when, owing to some inexplicable cause, the loose body slipped into the knee-joint, causing intense pain and effusion. Under the influence of rest, ice, &c., the effusion subsided, and Mr. C. S—— continued his studies until July 13th, when he entered the Fisk ward. Until this date the knee had been strapped, and Martin's india-rubber bandage was worn. The knee was also kept on a back splint. Actual operation was deferred in order not to break into the summer session studies.

On admission, the limb was a little wasted, owing to want of muscular exercise. There was no effusion into the knee-joint, but in the synovial pouch which extends above and external to the patella a freely movable loose cartilage could be felt. An anæsthetic having been given by Mr. Charles Moss, the loose cartilage, which was a thin disc of the size of a broad bean, but not so thick, was removed by making a vertical incision over it, just external to the rectus femoris tendon where the tendon is expanded into the strong fascia which forms the capsule of the knee-joint. The cartilage was squeezed edgewise into the incision, caught with a pair of hooked forceps, and removed after the division of a small process of fascia which was attached to one corner of it. The bleeding was carefully stopped; a drain of horsehair was passed into the wound, which was carefully sewn up. The operation was done under the carbolic spray, and the usual antiseptic dressings applied; the limb was also put on a splint. Two days later the wound was dressed and half the horsehair drain removed. The dressings were dry and blood-stained, as there had been some oozing of blood. There was no discharge. By the end of the week all the horsehair and stitches were removed; the wound had healed perfectly by first intention. The temperature remained normal. The patient was discharged at the end of a fortnight.

August 21st: The bandages and splint have been discontinued, and the joint has been freely used, and is in all respects as useful as the other joint.

BEDFORD GENERAL INFIRMARY.

RUPTURE OF BOTH LUNGS WITHOUT EXTERNAL INJURY; NECROPSY.

FOR the following interesting notes we are indebted to Mr. E. A. Laurent, M.B.Lond., resident surgeon.

J. J. R——, aged sixteen, brewer's drayman, tried to get on his cart whilst the horse was going at a smart trot; attempting which he fell, and the wheel passed over his chest. He was admitted on June 23rd, an hour after the accident.

On admission, the patient was unconscious and cyanosed; a loud rattle could be heard in his throat, and dyspnœa was urgent; respiration 50; pupils equal and dilated; extremities cold; pulse of good volume, fair tension and regular (148). No marks of the wheel could be detected on the boy's garments. His jaw was firmly clenched; no blood oozed from his mouth or nose, although there was a history of his having lost a teaspoonful by the mouth. There was no ecchymosis on the chest, and no evidence of broken or dislocated rib. Respiration abdominal; percussion note normal over left front, hyper-resonant over right. A forcible rhonchal fremitus could be felt over the left lung, and a loud, rough crepitation was heard over the whole left front, obscuring the heart sounds. The patient became restless and very violent, tossing his limbs about. A few whiffs of chloroform (one drachm) were then administered to quiet him and moderate the heart's action. The left side was strapped firmly, and a grain of ergotine was administered subcutaneously. Ice was introduced into the mouth through a gag. Patient got over the effect of the chloroform quickly, and became so restless that he had to be strapped to the bed; his breathing was more distressed. He made several attempts at vomiting, and half an ounce of bright frothy blood issued from his nose and mouth. The restlessness increased, his countenance became paler, his pulse remarkably soft and irregular, when he gave a few gasps and died, two hours and a half after the accident.

Necropsy, thirty-eight hours after death.—Temperature of room 69°; atmosphere damp. Body well nourished and muscular; cadaveric rigidity absent in arms; present in legs. Post-mortem lividity well marked in dependent parts. In mammary region a depression over the sixth rib was observed, corresponding to the buckle of the braces; over left side four discolourations, corresponding to strips of strapping, were seen. There was an ecchymosis as large as a shilling over the right internal malleolus, and another over the shin. On turning the head to one side, a large quantity of frothy decomposed blood oozed from the mouth and nostrils. An incision was made from the chin to the pubes. Some extravasated blood was found in the upper part of the pectoralis major muscles, and under the surface of the sterno-mastoid on the left side. No trace of ecchymosis could be seen corresponding to the marks on the skin. The veins of the neck were distended with blood. On opening the thorax on the right side, air was heard escaping. There was a pint of blood in the pleural cavity; a space three inches deep separated the lung from the thoracic parietes; in the groove between the upper and middle lobes was a ragged tear, three inches long, half an inch broad at its widest part, and a third of an inch in depth; and on turning up the lung along the posterior part of the root an L-shaped rent, three inches long above, one inch and a half long below, half an inch deep, and continuous with the tear along the anterior part, came into view. The right lung (weight 29½ oz.) was contused, emphysematous, and ecchymosed, the lower lobe being one mass of blood-clot; a large quantity of blood could be pressed into the bronchi. There were six ounces of blood in the left pleural cavity; the left lung (weight 32 oz.) was studded with ecchymoses from apex to base; a small slit, an inch and a quarter long and a quarter of an inch in depth, was discovered along the posterior part of the root where the lung touched the vertebral column. A good deal of emphysema was found diffused throughout, and a large quantity of blood was extravasated in the lung substance. The stomach contained four ounces of greenish fluid, and a disagreeable smell of decomposed beer was noticed; the mucous membrane was thickened; the glands and gland orifices were enlarged and mammillated. Several capillary hæmorrhages were observed here and there. The liver (weight 68 oz.) projected three inches beyond the rib cartilage, and showed under the microscope the primary cellular enlargement. The heart weighed 12½ oz. The ventricles were empty; heart substance fattily infiltrated; left ventricle hypertrophied; valves healthy. The kidneys weighed seven ounces each; cortex thickened; glomeruli apparent; pyramids congested.

Remarks.—Rupture of the lung without any external wound, fracture, or dislocation of the ribs is certainly a rare accident. Rupture of both lungs under similar circumstances must be rarer still. The most feasible explanation of the occurrence seems to be that the deceased was young and robust, his chest walls remarkably resilient, and his lungs getting jammed against his vertebral column, the only firm and inelastic structure of the thorax, yielded at the point of maximum resistance.

NEPAL RESIDENCY HOSPITAL.

TWO CASES OF PENETRATING WOUND OF THE ABDOMEN AND ONE OF PENETRATING WOUND OF BLADDER.

(Under the care of Brigade Surgeon Dr. J. BROWNE.)

CASE 1. *Perforating Wound of Abdomen; Protrusion of Intestines; Reduction; Recovery.*—Rajman, aged thirty, a healthy-looking man, was admitted into the Nepal Residency Hospital on the morning of April 3rd, 1883. He stated that on the forenoon of the previous day he was engaged in wood cutting, and when climbing up a tree with his unsheathed "kukhri" in his waistband, one of the branches on which he was supported gave way, and he fell to the ground from a distance of about twelve feet. He was somewhat stunned by the fall; and when he came to himself he found that the "kukhri" had run into his belly for a distance of some three inches from its point and was still fixed in the wound. He withdrew the "kukhri" himself, and this act was followed by considerable hæmorrhage. At this time there was no protrusion of the viscera from the wound. He lay where he was for four hours, when, with the assistance of a boy, he with difficulty walked to his home, a distance of about one mile. The next morning he was brought to hospital; and the shaking he underwent while being carried a distance of two miles, in a "dandi," caused protrusion of a portion of the small intestine from the wound.

On admission into hospital he was at once attended to, and the following was his condition:—He was suffering from extreme shock, the result most probably of exposure and loss of blood. He complained of great thirst, and pain over the entire abdomen. His cotton cloth waistband was tightly wound round him over the wound, and was found to be firmly adherent to the protruded intestine, requiring great care in its removal. There was a transverse wound in the left side of the abdomen, about two inches and a half in length, situated midway between the umbilicus and the anterior superior spine of the ilium and some eight inches of highly congested small intestine protruded from it. The intestine, from the surface of which blood was weeping in several places, was carefully freed from all foreign matters by gently pouring a stream of tepid water over it. When this was done, on proceeding to return the intestine a gush of bloody serum came from the wound; and the patient was now turned over on his left side, so as to favour the escape of any more fluid that might be lying in the peritoneum. By this manœuvre three or four ounces of a similar fluid came away. The intestine was reduced without any difficulty, great care being taken that no portion of it was left in the wound, and that all unnecessary fingering of the parts was avoided. The edges of the wound were brought together by three points of interrupted suture, which were inserted through the skin only, while the intervals between them were supported by adhesive plaster. The apposition of the deeper portion of the wound was effected as far as possible by raising the shoulders of the patient so as to relax the abdominal muscles. A piece of lint moistened with carbolic oil was applied over the wound, which was further supported by a compress and bandage lightly applied. For ten days the patient was in extreme danger, as he suffered from peritonitis. On one occasion only was the catheter required. The treatment employed was opium in full doses combined with calomel until the gums were affected. Hot fomentations were constantly applied. Milk, in small quantities at a time, was the only nourishment allowed for many days. On the third day he passed a healthy motion; but, unfortunately, afterwards suffered from diarrhœa, which, along with the peritonitis, at one time appeared likely to prove fatal. The sutures were removed on the sixth day.

This man was discharged from hospital on April 20th (seventeen days after admission), as it was absolutely necessary for him to return home. He was then convalescent, though much reduced in flesh and very weak, but his appetite was good, and he was taking soup, milk, and rice as his daily food. Rajman came to show himself at hospital on the 28th of April, and though still thin and somewhat weak, expressed himself as being in very good health in every way. The wound was quite healed up, but there was some hardness and thickening underneath it.

CASE 2. *Penetrating Wound of Abdomen, Protrusion of Omentum; Permanent Entanglement; Recovery.*—Urjun, a healthy-looking boy, when taking a short cut to his home on the night of the 16th April, 1883, fell from the top of a fence on a bamboo palisade, which was put up to prevent cattle from trespassing. The sharpened end of one of the pieces ran into his abdomen, and when he got up he found that he was bleeding freely, and that something was protruding from the wound. He was brought to the Residency Hospital the next morning, when, on examination, the following injury was discovered:—There was a jagged wound, an inch and a half in length, through the right rectus muscle, a little to the right of and below the umbilicus, and from it a portion of omentum, three inches by one inch, protruded. His pulse was good, and he complained only of pain in and around the immediate vicinity of the wound. On introducing the forefinger it was found that the rectus muscle was freely torn, and that a portion of omentum protruded through an opening in the conjoined aponeuroses of the internal oblique and transversalis muscle, which was only of sufficient size to admit the tip of the finger by the side of the protrusion. An attempt was made to reduce a portion of omentum, but it was found that it would be impossible to do so without enlarging the opening in the posterior sheath of the rectus, and such a proceeding was, under the circumstances, considered to be neither necessary nor advisable. The protruded omentum was carefully cleansed, and a piece of lint moistened with carbolic oil was applied over it. Opium was given and fomentations were employed so long as there was any abdominal tenderness. The bowels were moved daily. There was no retention of urine. On the day of admission and the following one he had a temperature of 103°. After the third day the protruded omentum appeared to be covered with lymph, and it likewise was diminished in size. For some days he was allowed only milk as nourishment, and in small quantities at a time. This boy recovered steadily and without an unfavourable symptom. He was discharged from hospital on the 20th May, with the wound quite healed up. The protruded portion of omentum was treated as follows:—On the third day a poultice was applied over it for a few hours, and by this means the lymphy exudation was quite removed. Then finely powdered burnt alum was dusted over the surface of the protrusion, which was covered with a piece of dry lint. The burnt alum was applied daily, and on the twenty-fourth day from his admission the protruded part had quite disappeared. From this time the edges of the wound were brought together by adhesive plasters, and they rapidly united.

Remarks.—The treatment of these two cases, judging from the results obtained, appears to have been the best that could have been adopted. It will be observed that in the first case the sutures were introduced through the skin only, as I considered they would cause less irritation afterwards than if they were put in through the entire thickness of the abdominal wall and peritoneum. In one case (protrusion of small intestine) there was severe and general peritonitis, while in the other (protrusion of omentum) the peritonitis was but slight and local. In both cases opium was given with a view to control the peristaltic movements of the intestines, while in the first mercury was administered until the gums were affected. In both cases milk, in small quantities at a time, was the only nourishment allowed for days. Both cases fortunately recovered, and this result was perhaps principally due to the healthy constitutions of the patients, as well as to the close attention bestowed on them by my hospital assistant, Mahomed Hossain, and by the dresser.

CASE 3. *Perforation of Bladder through Perineum; Foreign Body removed; Recovery.*—Nund Kaver, aged seventeen, a weakly looking lad, was admitted into the Nepal Residency Hospital on March 17th, 1883. He states that eleven months previously he fell from a tree in which he was engaged cutting branches. In his fall a withered branch stump ran into him, and when his father came to his assistance he found that a piece of a branch was firmly fixed in the upper and inner part of his right thigh. The stick was so firmly fixed in the lad that it required the united force of his father and another man to pull it out, and this they did with difficulty. From that time urine passed through the wound as well as by the urethra, and the boy felt that there was still a portion of the stick in his perineum. On admission into hospital a fistulous opening was observed a little to the inside of the tuberosity of the right ischium. The opening was small, and a long probe could be passed through it for a distance of some six inches in a direction upwards, forwards, and inwards, towards the

bladder. Through this sinus urine has been constantly escaping, but no foreign body in it could be felt with the probe. From the way the boy walked, with his legs widely apart, there could be little doubt that a portion of the broken stick was still in his perineum, and an examination by the rectum, and with a sound in the bladder, confirmed this opinion. The presence of a foreign body in the perineum as well as in the bladder being certain, it was determined on the following morning to cut into the perineum on the right side by making the ordinary incision of lateral lithotomy. The hospital assistant was instructed to introduce a piece of prepared sponge into the fistulous opening at once. The next morning on withdrawing the sponge it was possible to introduce a forefinger into the sinus, when, at a distance of about an inch and a half from the external opening, the end of a piece of wood was felt, which appeared to have run up between the rectum and the bladder, penetrating the latter somewhere in the vicinity of the prostate gland. With a dressing forceps, and without any difficulty, a portion of a branch measuring three inches in length and two inches in circumference was removed. This youth, when permitted to leave his bed, had completely regained his natural gait, and left the hospital on March 30th with the urinary fistula quite healed up, and the urine passing in full stream through the urethra.

Reviews and Notices of Books.

The Extra Pharmacopœia of Unofficinal Drugs and Chemical and Pharmaceutical Preparations. By WILLIAM MARTINDALE, F.C.S., late Examiner of the Pharmaceutical Society, and late Teacher of Pharmacy and Demonstrator of Materia Medica at University College. With References to their Use, abstracted from the Medical Journals, by W. WYNN WESTCOTT, M.B., Deputy Coroner for Central Middlesex. London: H. K. Lewis. 1883.

SIXTEEN years have elapsed since the publication of the last British Pharmacopœia, and it has long since ceased to occupy the high position it once held as a work of authority. New drugs and new preparations have come into general use, and the whole aspect of therapeutical science has undergone a gradual but sweeping change. Operative surgery has been greatly influenced by the introduction of new antiseptics and new anæsthetics, dermatology by the invention of petroleum ointments, and pharmacology by the discovery of such important medicinal agents as salicin and salicylic acid, chloral and croton chloral, chrysophanic acid and eserine, gelseminum and gelsemine, homatropine and hyoscyamine, jaborandi and pilocarpine, and nitrite of amyl and nitro-glycerine. In the introduction of these and other new remedies the author of the work before us has, during the last ten or fifteen years, played a by no means unimportant part. He has extracted the active principles from many of our most valued drugs, and has reduced them to a form in which their properties can be investigated by the pharmacologist and their uses studied by the scientific therapeutist. It is therefore with much pleasure that we record the appearance of an "Extra Pharmacopœia" designed to supply in some measure the deficiencies of that work which is conventionally supposed to represent the present condition of pharmacy in this country. That any one writer could ever hope to provide for all the shortcomings, or even to correct all the inaccuracies, of the official publication is not for one moment to be supposed; but Mr. Martindale has given us a very useful instalment, and his example will, we have no doubt, be quickly followed by others who, like himself, are dissatisfied with the present antiquated condition of affairs. The drugs mentioned by him in the new Pharmacopœia are viewed not only from a pharmaceutical, but also to some extent from a medical, aspect, references to their properties and uses being freely given. The area of selection, we are told, has been limited by personal experience, official drugs being introduced only when non-official preparations are in use. The chemical nomenclature has been adopted throughout, except where official chemicals are referred to, and then the Pharmacopœial name has been provisionally retained. The author expresses his regret that the metric system has not as yet been definitely introduced into this country, and that for practical reasons he has been compelled to retain for the present the old-fashioned weights and measures. On the Continent the new system is almost universally adopted both for dispensing and preparing medicines. In Germany, for example, the quantities of the ingredients are given in decimals; the gramme, which is taken as the unit, being, as a rule, not specifically named.

The first article is on jequirity, the new remedy for granular lids; and this is followed by an excellent description of the preparations of borax and boracic acid. Under the head of carbolic acid, a good account, compiled from various sources, is given of the antiseptic treatment, and no less than twenty-three preparations of carbolic acid are mentioned, most of them of undoubted value. The "carbolised smelling salts," which will be found useful in the treatment of hay fever, coryza, and allied affections, are evidently founded on a well-known proprietary article. The account of goa powder and chrysophanic acid is thoroughly practical, and will be read with interest. Numerous references are given to the action and uses of salicin and salicylic acid, a long extract being made from Ringer's Therapeutics. Aconitia is described as an alkaloid obtained from Aconitum napellus, and "probably other species of aconite," but no authority is given for the last assertion, although it is stated that English aconitine (Morson's) is, according to Flückiger, supposed to be identical with the pseud-aconitine obtained from Aconitum ferox, the Bish poison. We feel constrained to take exception to the introduction of the "special preparation" called "oleo-anodyne," which is said to be a combination of "aconitia, atropia, morphia, and veratria, with oleic acid." We have no doubt that, as a local application, it may afford relief in some forms of neuralgia, but the mixture of a number of active principles thrown promiscuously together, is not to be encouraged, and is out of place in a work possessing any claims to scientific accuracy. The Agaracus albus, or white agaric, is recommended in doses of from ten to fifteen grains as a remedy for the night sweating of phthisis. Care must be taken not to confound it with the fly agaric, Amanita muscaria, which is used for the same purpose, but is a much more active drug. The hypodermic injection of hydrochlorate of apomorphia is mentioned as an emetic, but the statement that the aqueous solution is "not very stable," is vague and might prove misleading. The account of the origin and source of atropia is correct, and shows an intimate acquaintance with the recent literature of the subject. The uses of the various salts of homatropia are referred to, and we are very properly warned that "they are costly." Directions are given for making the sulphide of calcium pills now so frequently prescribed for boils, carbuncles, and enlarged scrofulous glands. Permanganate of potash pills are directed to be made with kaolin ointment, a mixture of equal parts of vaseline, paraffin, and prepared kaolin. The author brings a serious charge against the official camphor-water, which is said to be of uncertain strength, the water taking up a variable quantity of camphor, according to the temperature at which it is kept. "A definite quantity of camphor dissolved in a small but certain quantity of spirit, and this added to a measured quantity of water, would make a more uniform preparation." Under the title of "spiritus camphoræ fortior," a formula is given for the essence of camphor now so largely used in the treatment of summer diarrhœa. Tannate of cannabin is a salt likely to prove useful, although its properties have as yet been but little investigated. The tests for chloroform are given concisely and clearly, but the information concerning another anæsthetic, bichloride of methylene, is

meagre in the extreme, consisting of only a short quotation from Garrod. The composition of the substance—we might even say its very existence—has been so freely discussed of late that we had hoped for some definite statement on the subject. The liquor chloromorphia, or chloromorphia solution, the formula for which is given, is evidently intended as a substitute for the too popular chlorodyne. The account of the cinchona barks and alkaloids is excellent, and is by far the best we have seen. Convallaria majalis is briefly mentioned, and, in addition to convallarin and convallamarin, an extract is recommended. The author appears to entertain some doubts, perhaps justly, as to the value of damiana as an aphrodisiac, for he passes it by with the shortest possible notice. The emblic myrabolin fruit is spoken of as a good laxative, and we can endorse the statements made as to its efficacy. Directions are given for the use of defibrinated desiccated blood, a remedy of much value as an enema in cases of gastric ulcer. A great deal of useful and practical information is given in the article on the oleates, but the preparations commonly called Shoemaker's oleates should have received more attention. The salt here called "pulvis zinci oleates" is very useful, and is a great advance on the compound originally sold as oleate of zinc.

The purely pharmaceutical articles are, as might be expected from an old and experienced teacher of pharmacy, thoroughly practical. The section on pills shows that the author has not failed to appreciate the requirements of prescribers. The modern method of varnishing pills is a great improvement on the old-fashioned custom of covering them with dirty flour. It is to be regretted that the American elixirs are so little used in this country as flavouring agents. A drachm of "simple elixir," a formula for which is given, added to an ounce of almost any liquid medicine will make it palatable. The preparations of the prunus virginiana, the wild cherry bark of the United States Pharmacopœia, might also be used with advantage for flavouring purposes, especially as an addition to cough medicines. We have mentioned only very briefly some of the more important articles in this interesting work, but every page is replete with valuable practical information, which will be found of the greatest use not only to the pharmacist, but also to prescribers.

Though we have only dealt with the pharmacological portion of this work, it would be ungracious not to notice Dr. Westcott's carefully prepared references to the various drugs.

OUR LIBRARY TABLE.

Handbook for Southport, Medical and General. Edited by EDWARD DAY M'NICOLL. Third Edition. Southport: Robert Johnson and Co. 1883.—Southport is situated on that part of the coast of Lancashire which lies between the estuary of the Mersey and the mouth of the Ribble, at a distance of eighteen miles from the entrance of the former. The soil of the district is sandy for the depth of some feet. Southport enjoys a mild climate, characterised neither by excessive humidity or dryness. The prevailing winds are from the south and west. In addition to the open sea aspect Southport recommends itself by its well sheltered position on the coast. The drainage seems lately to have been attended to, and it is said with manifest success, as indicated by the vital statistics. The little handbook contains chapters on the origin and growth of Southport, on sea-bathing, and on the effects of the climate upon disease. Chronic bronchitis, asthma, emphysema, strumous diseases, consumption, chronic rheumatism, chronic dyspepsia, ulceration of the fauces, clergyman's sore throat, and some forms of paralysis and nervous depression after long illness, are said to be the complaints to which the climate of Southport is especially adapted. The flora, birds, arachnida, crustacea, mollusca, zoophytes, and foraminifera to be met with in Southport are briefly described in the remaining chapters. The handbook is written in a simple unpretending style, and has much to recommend it to intending visitors.

The American Journal of Neurology and Psychiatry. New York: B. Westermann and Co. May, 1883.—In the current number Dr. Stephen Smith contributes some remarks on the lunacy laws of the State of New York as regards the provisions for commitment and discharge of the insane. The history of lunacy legislation in the State of New York shows a remarkable change in its policy of treating the insane, very like that of some other civilised countries. Max F. Eller directs his shafts against some of the narrow logic of the new penal code in regard to its medico-legal features. A case of mimicry of hydrophobia by other neuroses is sketched by Dr. James Kiernan. Some further notes on insane delusions are continued by Dr. Spitzka. A short account of insanity associated with, or, as the author puts it, from, measles, is given by Dr. Madigan. The relation of dental operations to facial neuralgia by Dr. Brush; how to examine the insane by Dr. Spitzka; the somatic etiology of crime by Henry Howard, and contributions to encephalic anatomy constitute the remainder of the original articles of this quarterly journal, which is printed in a clear type, not fatiguing to the sight.

Abstracts of some of the Medical and Surgical Cases treated at the General Hospital for Sick Children, Pendlebury, Manchester, during the year 1882. Second year of issue.—We are pleased to find that the valuable material which evidently exists at the Pendlebury Institution for Sick Children has not been simply confined to increasing the experience of those who have to do with the hospital. It has become a truism to say that it is impossible to make a post-mortem examination without learning something. But if anything substantial is to come of this recognition it can only be by careful records of the clinical and anatomical features of the cases. Notes ought to be taken in abundance, and everything that can be discriminated with certainty recorded. The "abstracts" before us have evidently been made at the cost of much time and labour. At first sight the adequate compensation for such work does not appear. One would like to see some general conclusions drawn from this vast array of material. But no doubt these will be forthcoming when a few more annual "abstracts" have been published. By keeping up the statistics, for example, of chorea, and endeavouring to follow accurately a regular list of headings, the hospital would in a few years afford a large mass of evidence which would serve to enlighten some of the dark corners of this field of medicine.

Hospitals, Infirmaries, and Dispensaries. By F. OPPERT, M.D., M.R.C.P.L. Second Edition. London: J. and A. Churchill. 1883.—It is not surprising that this well-known work of Dr. Oppert should reach a second edition. It contains a great mass of information, and no one interested in hospital construction could afford to neglect consulting it. The work is in two parts. The first part is devoted to principles, and the second part to details. Dr. Oppert does not appear to have any very decided views of his own, but on every question of principle he gives the arguments *pro* and *con.*, and leaves the reader almost unbiased to form his own conclusions. There is a section devoted to hospital administration, in which a great many useful facts are given. The chief value of the book consists, however, in the details which are given of a very large number of hospitals, British, continental, and American, and a careful study of the seventy-four ground plans of different institutions must be of the greatest value both to sanitarians and architects. Some of the ground plans have become a little antiquated, and since they were made the buildings have undergone sundry tinkerings (or improvements?) which are not in some cases represented. As an example we may instance the Westminster Hospital, in the plan of which the very impor-

tant additions made a few years since are not shown. In spite of these slight shortcomings we can cordially recommend the study of Dr. Oppert's book to all who are interested in hospitals.

Die Elektro-Medicin. Von Dr. R. Stintzing. "Autotypie-verlag München." 1883.—This fasciculus is a reprint from the official report of the International Electrical Exhibition held at Münich last year. It treats of the various forms of electrical apparatus which are, or have been, in any way connected with the study of medicine. Galvanic elements, thermopiles, induction apparatus, constant batteries, both fixed and portable, Edelmann's absolute unit galvanometer, and his pocket galvanometer, Stöhrer's vertical galvanometer, apparatus for the employment of static electricity, and other accessory articles, receive full and careful descriptions. An appendix is added by Professor von Voit, on the employment of the electric light in the study of anatomical, microscopical, and spectroscopic specimens. The text is illustrated by one plate and twenty-four figures.

The Student's Guide to Dental Anatomy and Surgery. By HENRY SEWILL, M.R.C.S., L.D.S. Eng. Second Edition. 1883.—To any medical practitioner who requires a succinct *résumé* of the various text-books on dental surgery this small book can be recommended, for, although it contains little if anything original, it conveys to the reader in a few words most of the facts and theories of dental anatomy and surgery. It is profusely illustrated; though some of the illustrations, notably 22 and 29, scarcely convey much additional information, and it is difficult to imagine why diagrams of syphilitic and of honeycombed teeth are entirely omitted. The chapter on dental irregularities is fairly good, and the one on caries a great improvement on that in the former edition, as it gives most of the various explanations of other authors, and justly insists upon thorough cleansing of the teeth as the most likely means of preventing the onset of decay. The treatment of caries is clearly enough given, though perhaps some of the most recent methods of filling are not included. The remainder of the book treats of diseases of the dental pulp and their management, dental periostitis, abscess, necrosis, and other diseases of the oral cavity. Diseases of the antrum are very summarily dismissed, and in the section on neuralgia it is curious to notice that although decayed wisdom-teeth are mentioned as an exciting cause of neuralgia, no reference is made to the fact that retarded eruption of these teeth (even when sound) is about the most frequent cause of neuralgic pains of the head and neck and even of the shoulder and arm. For the extraction of teeth this manual gives, with the aid of illustrations, copied from Druitt, clear instructions, but most unaccountably omits all reference, containing not even a drawing, of the so-called "hawk's-bill" pattern molar and root forceps, an almost indispensable requisite amongst modern dental surgeons. We are glad to find that this author (with few exceptions) does not recommend the administration or prescription of internal remedies by dental surgeons.

DR. BADALONI ON THE PERMANGANATE OF POTASH.

To the Editor of THE LANCET.

SIR,—In Dr. Badaloni's paper on the poison of the Vipera aspis and Permanganate of Potash, which appears in your issue of May 5th last, I observe that my experiments with cobra venom and the permanganate of potash are alluded to in the following terms:—"To the experiments of Vincent Richards, cited by Dr. de Lacerda, Dr. Badaloni opposed those of Sir Joseph Fayrer, described in the 'Thanatophidia of India,' the results of which were purely negative." It would appear from this that Dr. Badaloni is labouring under the erroneous impression that Sir Joseph Fayrer's views on the subject differ from mine. I cannot believe that Dr. Badaloni has had the opportunity of perusing what I have written. My conclusions are based upon nearly ninety experiments conducted by myself, and Sir Joseph Fayrer has admitted that the permanganate of potash does destroy the power of cobra venom while lying in the tissues. This is all the power I have claimed for the permanganate, and there is nothing in Dr. Badaloni's experiments, as published, to disprove the fact. His experiments, I respectfully submit, are far too few and unsatisfactory to prove or disprove anything, and are susceptible of an interpretation diametrically opposed to that which Dr. Badaloni would have us accept. Anyone disposed to criticise his experiments might insist that if he obtained only negative results his failure is attributable rather to inefficient injection of the agent than to its want of destructive power over the venom, since what has been positively demonstrated cannot be disproved by mere negative results. Further, Dr. Badaloni attaches much value to the continuous fall of temperature after the injection of the permanganate of potash. Now, I may observe that this in no way disproves that the permanganate failed to destroy the toxic power of the venom lying in the tissues when the injection was made. The venom that had already been absorbed would be followed by the usual physiological results. In his second experiment one hour and forty minutes had elapsed between the bite and the injection. Obviously sufficient venom had already been absorbed into the general circulation to produce certain effects. It is not surprising, therefore, that the temperature was unaffected by the injection of the permanganate. Again, in his experiment on a mouse, although the agent was injected immediately after the infliction of the bite, it might reasonably be held that the dose of venom was an overwhelming one, and that the solution of the agent failed to reach the whole of the venom. Death in this case was "postponed for three-quarters of an hour." Of this result Dr. Badaloni says: "The postponement of death for three-quarters of an hour in a little mouse which, in summer, falls a victim in from five to seven minutes, at the same time convinced me of the feeble power of the poison when the temperature of the air is cold," &c. But the result is open to a very different interpretation. There is absolutely nothing to show that the postponement of death was not due to the destruction of a portion of the venom lying in the tissues. At any rate, this conclusion is as logical and justifiable as that which he arrives at. (Dr. Badaloni does not appear to be aware that the mere dilution of the venom with water will delay its action, or he might thus have accounted for the postponement of death in the experiment quoted above.) His other experiments on mice in no way affect the question. In all his experiments there is the fatal objection that by adopting his method of making the snake inflict a bite you can never tell what amount of poison has been injected; whereas by injecting a known quantity of venom no such element of uncertainty exists. I could give Dr. Badaloni many instances in which I have injected an absolutely certain fatal dose of cobra venom into dogs which have remained either unaffected or have recovered after the efficient injection of the permanganate of potash. But here I may remark that I have found a 4 per cent. solution necessary to destroy cobra venom, a 1 per cent. solution having failed. Surely such positive results are worth more than the one or two negative ones obtained by Dr. Badaloni. I am confirmed in my position by Dr. Wall and Dr. Weir Mitchell. The latter gentleman, in a letter I recently received from him, says: "I am sure you are absolutely correct as to everything you say about permanganate—potassa also you are right about. It does protect in the areolæ, it does not in the blood." As regards the supposed effect of the venom of the Vipera aspis upon the temperature, I may remark that if such is the case it must differ entirely from the venoms of the cobra and the daboia, which do not affect the temperature. In conclusion, I may add that when Dr. Badaloni has the opportunity of perusing the account of Drs. Weir Mitchell and Reichert's very important researches on the chemistry of venoms, he will probably see reason to alter his opinion that all snake venoms are absolutely identical in their nature.

I am, Sir, yours truly,

Goalundo, Bengal. VINCENT RICHARDS.

THE Library of the Royal Medical and Chirurgical Society was reopened on Thursday, the 13th inst.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 15, 1883.

THE Report of the Metropolitan Sewage Discharge Commission, appointed to inquire into the pollution of the Thames by London sewage, will, we understand, be presented shortly. Its appearance will be looked for with eagerness, and even anxiety, by all who are interested in sanitary science or in the well-being of London. The Commission is a strong one. Its members are all distinguished in law or science, and they have done an immense amount of hard work in the course of the investigation. The evidence laid before them has been diverse, and to a great extent contradictory in character. From the beginning the inquiry has resembled a civil trial, in which the Corporation of London were the plaintiffs and the Metropolitan Board of Works the defendants. Each side was ably represented by counsel; each side strained every nerve in the collection and presentation of evidence; and neither side spared money or trouble. The contention of the Metropolitan Board is well known. Admitting, as they must do, that the sewage of all London is thrown in a raw state into the crowded river which runs through the city, they assert that no important harm is done thereby to the water of the river, and that any grievance complained of is, at the most, a sentimental grievance. Nuisance in the practical form of noxious emanation or foul smell there is, they say, none, or next to none. The sewage goes in of course, and near the outfalls no one with a nose could deny that there is a bad smell, but the dilution with water and with air is so great, and the oxidation in the running water so rapid, that all sewage matters are destroyed in a very short time, and even the black mud on the banks is not polluted or injured in quality. In fact, the best thing that can be done with the sewage of London—the largest and richest city in the world—is to throw it, raw and unstrained, into the Thames near Woolwich.

The Metropolitan Board of Works wield a very great power and almost unlimited resources. They have carried out many important works and done much good in their time. But in the present instance we think it fortunate that they have been met and fairly opposed by a power still greater than their own. The Corporation of London have taken a different view of the enormous sewage pollution of the Thames. They hold that it is a filthy and noxious pollution injurious to the City, to its navigation, to the large population who live on or near the river, and to the still greater number who travel upon it for business or pleasure; a pollution, in short, quite unworthy of modern civilisation. With this view we need hardly say we entirely sympathise. We have always held that the sewage system adopted and supported with such obstinacy by the Metropolitan Board is almost the worst that could be devised, and we thank the City authorities in the name of medical science and common decency for the good fight they have waged in behalf of their river. If the Thames from an open sewer becomes once more a river, the Corporation of London will have won another useful victory, and Londoners will not forget their service nor that of their skilful general, Sir THOMAS NELSON.

It would be premature to discuss the scientific evidence with which the Commissioners have been so plentifully supplied. We have said that it has been in part contradictory, but much of it, on both sides, has, none the less, been extremely novel and valuable, and will add permanently to the literature of sanitary science. For the present we confine ourselves to a brief summary of a few leading features in the case.

All parts of the Thames are polluted with human sewage. Even above Teddington such pollution is notorious, although it is confined to a considerable distance above the intake of the London water companies. In the tidal portion of the river the pollution becomes more serious. We passed the other day through a black and foul-smelling stream which was pouring in near Chiswick, and there are many others. At Barking, Crossness, and one or two other points the rest of the London sewage enters the river. The pumping nominally begins at high water and continues for about two-thirds of the ebb, but we have seen the engines at work before high water and throughout the whole of the ebb tide. When the tide turns, a large portion of the sewage is carried up far past the outfall, and is washed about for an unknown time and through an unknown area of the river. Solid human excreta are to be seen in abundance near the outfalls, and so imperfect is the filtration that baskets have actually been known to pass into the river. In the water the sewage matters putrefy. In summer the stench of putrescent sewage can sometimes be observed on the river, and, still more frequently, in the mud on the banks. In winter putrefaction is slower, and the stench is not observed. But this only means that sewage matter of the most offensive kind is retained in the water for a longer time, and therefore over a larger area. Sooner or later, and no one can tell exactly how soon or how late, the dissolved oxygen of the water does its work and converts the sewage matter into harmless products of oxidation. But in what is conveniently though rather vaguely called the sewage area of the river the strain on the dissolved oxygen is at all times too great. There is scarcely a trace of dissolved oxygen in this part of the river, and even the nitrates are put under contribution, and lose their oxygen. Of course fresh oxygen is constantly being absorbed from the air, but so inadequate is the total supply that in the sewage area the nitrogenous pollution is but little less in flood-tide than it is in ebb, and even at high water it is very considerable. How far the sewage area extends cannot be definitely ascertained. Probably for the reason above given, it is greater in cold weather than in hot; but the worst portion certainly lies between Woolwich and Greenhithe, and the influence of the sewage is not entirely lost even in Sea-reach. The whole Thames, in fact, is at all times polluted with unoxidised sewage matters.

DURING the past few months we have on several occasions drawn attention to the defective arrangements existing in the city of Liverpool with regard to the isolation

of infectious diseases, and we have not hesitated to condemn the existence of the practice by which the sanitary authority has trusted to the Poor-law authority to perform duties which had reference essentially to the protection of the public health. It is, therefore, with no small satisfaction that we have seen a report issued by the medical officer of health to the city, in which the establishment of means of isolation by the Corporation as a sanitary authority is urged, and we are glad to see in the discussion which has taken place in the Town Council that the views which we expressed as to the wrong which has been inflicted upon the poorer classes by sending them into Poor-law institutions, and thus compelling them to become paupers in order to prevent the risk of the spread of infection to the community at large, are now fully recognised in Liverpool. Dr. TAYLOR'S Report, which was submitted for adoption by the Health Committee, proposed that a hospital should be provided by the Corporation for 500 patients suffering from the various forms of fever, and for 150 patients suffering from small-pox. The report was adopted, and thus the first step has been taken towards removing one of the principal sanitary defects under which the city of Liverpool has for some time past been labouring. But during the discussion which ensued some very important points were raised, which have an application far beyond the limits of Liverpool, and they relate to the question of how far it is desirable to aggregate patients suffering from infectious diseases on any one site. The paragraph in the report of the Health Committee which dealt with this subject was as follows:—"That a site of sufficient extent should be acquired to admit of the construction of separate pavilions for the reception of such cases of infectious disease as may require isolation one from the other, and that a Committee be authorised to take the necessary steps to obtain such a site." This part of the report was, however, met by an amendment to the effect that the Committee should be authorised to purchase "one or more pieces of land" for hospital purposes, but in the end the amendment was lost, thirteen voting for it and nineteen against it, and the original report was adopted. Liverpool has therefore provisionally decided to aggregate 650 patients, of whom 150 would be suffering from small-pox, on a single site, the area of which is as yet not defined.

The question involved in this decision must be regarded from at least two points of view. The first has reference to the patients. In Liverpool any hospital site must necessarily be on the outskirts of the city, and having regard to the area of the city, patients living in that part of Liverpool most distant from the hospital would necessarily have to be conveyed a distance of several miles. It is true that, apart from cholera, patients labouring under the specific diseases needing isolation do not appear to suffer from a journey of several miles in a well-appointed ambulance, provided the removal is effected in an early stage of the disease. But this early removal cannot always be guaranteed, and, when the patient's friends come to be considered, it is found that a distance which interferes with frequent inquiry as to the welfare of the sick has in many cases very materially hindered isolation. In short, whether the patient's own welfare be considered, or whether the facilities for securing his speedy removal are held in view, two or more hospitals would clearly in such a city as Liverpool have advantages over a single one.

The second point has reference to the influence of infectious hospitals on those dwelling in their more immediate neighbourhood. In view of the experience gained as to the London Fever Hospital we may probably take it for granted that in the case of a well-administered hospital, properly enclosed and standing on an adequate site, some 500 patients suffering from different forms of fever, may be aggregated together without risk to the surrounding community, and from this point of view alone we have no grounds for objecting to the Liverpool proposal. But when it is proposed on the same site to make provision for 150 small-pox patients, we feel that the matter deserves further consideration. The results of the inquiry as to the influence of the Fulham Hospital on the neighbourhood around it went to show that mischief arose, within a range which in the case of a Liverpool hospital will doubtless include not only the fever pavilions but also inhabited dwellings, when far fewer than 150 acute cases of small-pox were aggregated together, and so convincing were the facts on which Mr. POWER based the opinion that the aggregation of small-pox patients did lead to an aerial spread of infection, that the Royal Commission on Hospitals, whilst reserving the question as to how far this was actually proved, laid down rules for the isolation of small-pox in London which show clearly that they were deeply influenced by the Fulham experience. With regard to hospitals very similar to the one proposed at Liverpool, the Commissioners recommend as follows:—"We think..... that administrative blocks, with a few small wards attached to them might be maintained within the precincts of the fever hospitals, sufficient in each hospital for thirty or forty small-pox patients; that the hospital authorities should divide the metropolis into hospital districts, assigning one to each hospital; and that no hospital should receive small-pox patients except from the district in which it is situated."

The Liverpool decision should, we think, be reconsidered in the light of this recommendation. At Fulham, mischief to the community around appeared to arise when more than some forty acute cases were simultaneously under treatment, and this notwithstanding the exceptionally isolated position which the hospital occupied. Liverpool may not at present see its way to divide the city on the basis of the Commissioners' recommendation, but they would do well in the first instance to provide two sites instead of one, and to make provision on each for the necessary number of fever patients, but to limit the small-pox accommodation to forty beds. Should this turn out to be insufficient, the remedy will be the purchase, at some future date, of one or more additional sites. The objections raised to such an arrangement have apparently had reference, in the main, to cost. So far as the sites are concerned we doubt whether two sites allowing only some twenty patients per acre as recommended in the Hospital Report of the Local Government Board, would cost much more than one site having accommodation for patients at the same rate per acre. And in point of administration, it will certainly be found that an establishment holding 650 patients, and in which the several buildings and nurses must be as carefully isolated from each other as are the several classes of patients, will require such an administrative subdivision both as regards principals

and the subordinate staff, that a duplication at least will become necessary for most purposes, whether the establishment be all contained on one site or not. Whilst we congratulate Liverpool on the step that has been taken, we would urge that the points we have here adverted to are worthy of the attention of the Corporation, of the Health Committee, and of their sanitary staff.

HAPPILY an inquest has, at last, been held on the body of one of the victims of the Southall Park Asylum fire, though not on the remains found among the débris of the building, but those of a young woman who lost her life from injuries sustained in the endeavour to escape from the burning house. We are glad to know that Dr. DIPLOCK had the probability of the death which eventually occurred before his mind when he refused to "sit on" the few ashes declared to be fragments of a human form. There is the more cause to be gratified with the prosecution of this inquiry—informal and brief as it has been—because by the intelligent assiduity of the foreman of the jury an official statement has, or rather a series of official statements have, been elicited from a representative of the Board of Commissioners in Lunacy which it would have been a great misfortune to lose. We are especially desirous to avoid placing a wrong construction on what was said on oath before the coroner and jury on this occasion on behalf of the Commissioners, and will therefore quote the words of their representative as reported in the newspapers. Mr. FRERE was the official witness, and it must be borne in mind that this gentleman is himself one of the visitors or inspectors who go round to see the houses, and upon whose energy and intelligence everything depends. Mr. FRERE had just explained that "the asylum was visited six times in a year (the last time would be in July)," and a juror asked, "Was any special report made at the time with regard to the precautions taken against fire?—Witness: There were certain regulations made in 1869 to guard against an outburst of fire.—Juror: Were they complied with?—Witness: I cannot answer that question. I don't know what was to be done by the servants and attendants to guard against fire; but as far as I know they were complied with. I have no copy of the regulations." So that Mr. FRERE, who was sent as a representative of the Commissioners, and as altogether a representative man in relation to the protection of the insane, had to confess that he was not aware what regulations had been made, or whether they had been complied with. This was the first fact elicited. Later on the foreman of the jury observed: "You say the care of lunatics is your special duty. Are they considered cared for if locked up in separate rooms in a highly combustible house, and with no means of getting out in case of fire?" To this Mr. FRERE replied, "Certainly not."—The Foreman then asked, "Was it not your duty to see whether they were placed in that predicament or not?" And Mr. FRERE explained, "I have never yet come across patients who were put in a house which was highly combustible. I do not know that this house was highly combustible, but I do know that they were locked up all night." Mr. FRERE was not, therefore, aware that Southall Park Asylum was "highly combustible," or, in other words, so constructed as to be very easily and quickly consumed in the event of a fire breaking out in that establishment. It is only fair to remember that Mr. FRERE was not taken unawares, but had expressly come to the inquest to represent the Commissioners, so that, of course, what they knew he knew, and what he did not know was presumably unknown to the Board in whose name he spoke. Ignorance on the part of the Commissioners as to the condition of the building, and consequently of the danger which existed, must accordingly be taken as the second fact brought to light. The foreman, who is evidently a man of business, pressed Mr. FRERE further: "You did not consider it necessary that a night watchman should be appointed?" And this was Mr. FRERE'S elaborate and lengthy reply: "In this particular asylum the Commissioners did not consider it necessary that a night watchman should be appointed. Dr. BOYD'S average number of patients was twenty. To have a place watched throughout the night there must be two watchmen, and the safety of the inmates cannot then be absolutely assured. To make a night watch efficient you require a system of tell-tale clocks. That is very expensive, and it is questionable whether you would get absolute immunity from risk even then. The question is, whether you ought not to take upon yourselves a certain amount of risk rather than put people to such an enormous expense. The patients would lose benefits in other ways. This is a question which is always carefully considered, and in asylums which have any large number of patients, night watchers are insisted on by us. We make no regulations as to what attendants shall be with the patients; that is left to the discretion of the medical superintendent!" A whole crop of startling facts come out upon the face of this confession, the more important of which may be thus epitomised: twenty patients have not in the opinion of the Commissioners a claim to be efficiently protected from fire, because it would cost a good deal to provide them with proper safeguards; and rather than put the proprietors of asylums to the "enormous expense" of maintaining a couple of watchmen the Commissioners think they ought to take "a certain amount of risk" upon themselves; that is, not a certain amount of the risk of being burned in their beds—the whole of that risk is economically devolved upon the patients—but a certain amount of risk as to getting out of the scrape when an "accident" occurs, and public opinion is for the moment indignant; this the Commissioners kindly take, "rather than put people"—that is, the proprietors of asylums—"to an enormous expense." The facts speak for themselves.

Nevertheless we have a few, and only a very few, words to say on the subject. We entirely agree with a contemporary who has observed, "It seems to us that Mr. FRERE completely demonstrated the need of a radical reform in the Commission of which he is a member, with the view of securing something more than a perfunctory discharge of its important duties." The insane have no protectors while in asylums except the Commissioners. Those who would fain help them are laughed to scorn because they have no "official authority" to interpose, and those who have official authority exercise it in the manner revealed by the confessions of Mr. FRERE. It is, indeed, high time that something were done in this matter. There is not the slightest

reason to suppose that Dr. BOYD'S asylum was less well cared for than other private houses of the class. Dr. BOYD was a man of excellent judgment, and much devoted to the interests of his patients. He simply conformed to the prevalent practice as regards the non-provision of night attendants. If there had been an attendant or "watchman" patrolling the building, as there certainly ought to have been, it is in the last degree improbable that any life would have been lost, even if the fire had not been promptly extinguished and the property saved. It was not, however, in the estimation of the Commissioners necessary that there should be a watchman, not because a watchman would not have been a protection, for Mr. FRERE himself admitted that point—"A Juror: Do you think that if time had been given the patients would have been rescued?—Witness: Yes, I think so,"—but because the Commissioners preferred "to take a certain amount of risk" on themselves rather than put Dr. BOYD to "such an enormous expense" as would have been entailed by keeping one or two watchmen and a few tell-tale clocks. They have taken the risk, and the public see the result. The only question is whether this is the sort of duty which the Board of Commissioners in Lunacy is organised to perform! The establishment at Whitehall costs the country some £15,000 a year. That is not a large sum to spend on a Commission, it is true, but it is large enough to make it worth while to see that the task entrusted to it is efficiently performed. We must confess that in our judgment it is improbable that this should be the case while the Commissioners so interpret their responsibility as to incur risk of censure, while the insane are exposed to risk of life, rather than "put people to such an enormous expense!" We are glad to know that the more enterprising proprietors of asylums are already commencing to put their houses in order before any pressure is brought to bear upon them. That there should need to be any reconstruction or reform is wholly the fault of the Commissioners in Lunacy, who have omitted to discharge their duty, and encouraged private persons to neglect theirs.

"Quis custodiet ipsos custodes?"

THE necessity for a reconstruction of the clinical history of tuberculosis seemed to follow as a logical outcome of KOCH'S important discovery. And there can be no question that many medical men enthusiastically fell in with the view that phthisis was a parasitic and infectious disease. At the last meeting of the Académie de Médecine, Professor BOUCHARDAT has done perhaps more than justice to these exaggerations, as he regards them, in a communication inspired by the praiseworthy endeavour of seeking to harmonise the known facts of clinical observation with the recent acquisitions of experimental pathology. There can be no doubt that up to the present the doctrine of the contagiousness of phthisis, as demonstrated by the actual record of alleged instances, stands in an overwhelmed minority. M. BOUCHARDAT believes that pulmonary phthisis is originated chiefly under the influence of general conditions determining a state of ill health which has been called *physiological misery*. However, it is argued that the parasitic nature of the disease can no longer be denied. What then becomes the *rôle* of, and what relation have, the microparasites in those cases which are clearly not derived by contagium from without the organism?

The condition of *physiological misery* is essentially characterised by a deficient oxidation and consequent want of calorification, due to insufficient respiration. Certain portions of the lungs have been observed not to expand in proper degree in those who have just become or are about to become the subjects of phthisis. M. BOUCHARDAT maintains that this local insufficiency is to be found in those in whom tubercles have not yet formed. In such areas the capillary circulation is arrested. At these sites the lymphatic corpuscles placed under abnormal conditions acquire new functions, and amongst others, are metamorphosed into pathogenic bacilli! This, indeed, is a bold return to the doctrine of heterogenesis so strongly upheld by BASTIAN, and implies not only a spontaneous generation of the microparasites, but also of virulent diseases. BEALE has believed that particles of protoplasm derived from the living organism may be the germs of disease. And perhaps the view here set forth may supply Dr. CREIGHTON with the most solid basis on which to found his views of the acquisition of specificity by diseases which were originally non-specific. Suppose that we have in the natives of Central Africa to do with a non-contagious suppurating form of lichen, and we wished to know how such an affection became specific and contagious (small-pox). It would not be too much to invoke the presence of the necessary external conditions under whose presiding influence the products of the suppurative inflammation underwent such changes that the inflammatory corpuscles became colonies of bacteria, after the manner advocated by BASTIAN and now most recently by BOUCHARDAT. The bacilli might then be regarded as veritable spermatic filaments capable of engendering the parent disease from which they were derived. If it be not for some such opinion as this we do no see, although they may exist, on what grounds Dr. CREIGHTON'S position becomes intelligible, unless as an ingenious exercise of the scientific imagination. It will thus be seen that the whole question of spontaneous generation would again be opened in some quarters, and that not with a little lease of vitality. Professor TYNDALL, in writing recently on the breeding of cholera germs, has remarked very positively and emphatically on the impossibility of our owning any other than the view of contagiousness for the explanation of cases of cholera and typhoid fever. He has spoken of an opposite theory as a dead opinion, which, if it did any good, did much more harm to scientific medicine. Now, although appearances, so to speak, are all against the doctrine of origination *de novo*, yet we hold that it is most scientific not to be so absolute as Professor TYNDALL seems to be. He would not deny that spontaneous generation has occurred in long-past ages. And the mind which knows no changes of space and time cannot but conceive that what has once happened may do so again. We say, and say no more than this, that spontaneous generation is a conceivability, and whilst it remains such, it would be folly to shut our eyes and close our ears to attempts to show that the conceivability is something more than legitimate thought.

In thus having pushed to its utmost the heterodox doctrine, we do not desire to forget the actual teachings

of experiment. We unhesitatingly admit that, notwithstanding the intellectual possibilities of the case, the satisfactory proofs of an origination *de novo* have not as yet been given. Nor, judging from the performances of the past, does there seem much hope that the evidences will be forthcoming. And why? The difficulties which surround such a demonstration are so numerous and so complicated; the search after the philosopher's stone is not more so. Conceivably, and more especially in the light of some of the teachings of modern chemistry—we refer to the notion that all the elements may be but remarkable modifications of one element,—all other metals may be converted into gold. But who would dare practically to entertain such an opinion with any regard for people's belief in the sanity of his mind! We have thus endeavoured to express forcibly the insurmountable objections in the way of establishing the truth of the fascinating doctrine. Possibly in our simile of difficulties we have over-estimated the perplexities which beset those who would prove what most individuals disbelieve.

THERE are few subjects more worthy of sound study than dysmenorrhœa. It has received for the last fifty years more attention at the hands of gynæcologists than ever before. But still it cannot be said that authorities are agreed on its essential causes. For a long time it came to be regarded as eminently a case for treatment by specialists. The mechanical theory of its causation largely ruled practice, in some few cases with brilliant relief, and perhaps cure, in others without success, and often with the effect of adding to the mischiefs which it was intended to remove. The very nature of the complaint, and the fact that in its serious forms it affects chiefly unmarried women, render the complete investigation of it a matter of much difficulty. The existence of more or less dysmenorrhœa in the majority of women is a fact. Even those who are unwilling to recognise in this fact any argument against the capacity of women for competing in the labour market with men do not deny that in a large proportion, nearly fifty per cent., this dysmenorrhœa is considerable in amount.

We have before us a paper by Dr. JOHN WILLIAMS on the Natural History of Dysmenorrhœa, which was read last year before the Obstetrical Society of London. We can do little more than direct attention to Dr. WILLIAMS's principal conclusions from a large and painstaking observation of several hundred cases. He divides his cases into two sets—first, cases of primary dysmenorrhœa; secondly, cases of acquired. The acquired cases are so few (22) compared with the others (873) that we need not here allude to them. It is not easy to do justice to the details which constitute the interest of such a paper as the one under notice. But we can give his conclusions, and after doing so emphasise the chief of them. His conclusions are as follows:—

"Dysmenorrhœa should be studied first under the least complex conditions—in single women. 2. Dysmenorrhœa in single women is rarely acquired; it is almost invariably primary—viz., it appears with the menstrual function. 3. Dysmenorrhœa in a few, but rare, cases ceases spontaneously a few years after puberty. 4. Marriage, if sterile, aggravates the disorder in many cases; it is only very seldom that it relieves the pain. 5. Childbearing cures a large number of cases, and it is not impossible that were all puerperal complications excluded it would cure every case. 6. The proportion of sterile to fertile women subjects of primary dysmenorrhœa is one to twelve. 7. Menstruation begins in women who become sufferers from primary dysmenorrhœa at about the estimated average age for the appearance of the function in London. 8. Menstruation is regular in about two-thirds of the cases, and irregular in about one-third. 9. The menstrual fluid is profuse in about two-fifths of the cases, scanty in about one-half. It contains clots or shreds in about three-fourths. 10. The changes which take place in the fluid in the course of dysmenorrhœa are various, and cannot at present be classified. 11. The uterus is imperfectly developed. It may be too short, or too small in volume, or it may be defective in both respects. The cervix may be conical, and the os small and round, but stricture of the canal in any part of its course is infinitely rare. 12. The changes in the uterus due to dysmenorrhœa are slight hypertrophy, erosion and eversion of the mucous membrane of the cervix, and catarrh. The cavity increases but little in length, for after years of suffering it measures rarely more than two and a half inches in length. In the early stages the tissues of the uterus are in some cases soft; in the more advanced, hard. 13. The hypertrophy of the uterus is probably the result of periodically increased muscular action. 14. Ovaritis and perimetritis are possible consequences of dysmenorrhœa. 15. The menstrual pain is the result of spasm of the uterus, excited by the separation and expulsion of shreds of decidua and clots, in an organ whose sensitiveness in the performance of its function is enhanced by inappreciable conditions of tissue dependent on imperfect development, often associated with others, such as anæmia."

Dr. WILLIAMS endorses the general opinion that the separation and expulsion of membrane in typical cases have a causal relation to the pain, chiefly by exciting spasm of the uterus, which in a few cases leads to its enlargement. Ovarian pain and inflammation are rare in his experience, and when they occur probably are consequences, rather than causes, of dysmenorrhœa. Another very noticeable point in his conclusions is the infrequency of stricture of the cervix. The cervix may be conical and the os small and round, though in some cases the os is patulous, but stricture of the canal is infinitely rare.

The most striking facts in Dr. WILLIAMS'S investigations have reference to the important evidence of imperfect development of the uterus. His conclusion is expressed in No. 11 of the above series. He examined physically 21 of 50 cases under twenty years of age. In 15 of these 21 cases the uterus was smaller than normal. Between twenty and twenty-five years there were 62 cases, of which 40 were examined. In 14 the uterus was of small size, in 1 very small; in 1 it was like a thick cord lying on the left side of the pelvis; in 3 it measured two inches only by the sound, but the body was no thicker than the cervix; in the remaining 8 it was estimated by bimanual examination to be smaller than normal; and similarly, though less, in the later quinquennial periods. In the later periods there is sometimes, as is said in the Conclusions, a partial hypertrophy of the organ, the canal still often being of short length.

This observation of the imperfect development of the uterus is consistent with the fact that dysmenorrhœa occurs more frequently in delicate and ill-exercised girls than in others. The whole drift of Dr. WILLIAMS'S views is to pursue a constitutional and rational treatment of such cases rather than a mechanical one. But we content our-

selves with directing this much attention to a very original and painstaking contribution towards the elucidation of a very difficult subject.

Annotations.

"Ne quid nimis."

THE COLLECTIVE INVESTIGATION RECORD.

THE first number of this record has appeared almost before the throes of the commencement of the movement of Collection Investigation can be said to have ceased to exist. It is a closely printed volume, containing a variety of material. An account of the history of the movement by Professor Humphry is followed by the reports of the addresses delivered before the Metropolitan Counties Branch of the British Medical Association by Sir William Gull and Sir James Paget. Next comes the report on the communicability of phthisis. Out of 1078 members of the Association who have returned answers to the question issued on this subject, at least 261 believe they have seen cases of phthisis which have originated in communication from one person to another; about 39 more have seen cases which have made them doubtful on the subject; whilst 105 have offered facts and arguments which seem to them to negative such a view. One hundred and fifty-eight affirmative returns refer exclusively to cases observed between husband and wife. In the preliminary report on acute pneumonia more than 400 reports have been received by the committee, and 350 of these have been analysed with reference to questions of etiology, epidemic prevalence, communicability, and other points mentioned in the Memorandum upon this subject. Many of the conclusions in this department are considered only in the light of provisional or tentative statements. We may remark that out of 334 cases the right base was affected in 108, the left base in 86, and both bases in 76. Twelve reports have been sent which are supposed to illustrate the conveyance of pneumonia from person to person. In the report on chorea we may refer to the part which deals with rheumatism. Definite rheumatism preceded the chorea in about 24 per cent. of the cases. Thirty per cent. is the number in which chorea and rheumatism were associated. This latter statement is not out of harmony with the results arrived at from the collection of a larger number of cases by Dr. Money (vide *Brain*, Jan. 1883). In 27 per cent. genuine heart disease is said to have been connected with the chorea; this estimate is twice as great as that to be found in the paper above referred to. The preliminary report on acute rheumatism gives a table showing the incidence of acute rheumatism as to age and sex, from which it appears that the disease is most frequent between the ages of sixteen and thirty-five; that it is more frequent in the male than in the female, if we except the period of sixteen to twenty, when the two sexes are about equally affected. Between the ages of eleven and fifteen the females are three times as numerous as the males. In the account on diphtheria we may notice that three-fourths of the cases which have been reported are described as sporadic, originating without known exposure to any antecedent case, and that by far the greater number, whether sporadic or epidemic, have occurred in sparsely inhabited districts, a point particularly noticeable among the former class. Dr. Longstaff has prepared a paper which, dealing with the matter as one of figures alone, conclusively proves that the greatest mortality from diphtheria occurs in thinly inhabited areas. It will for the present suffice to state that Dr. Longstaff found that while 62 per cent. of the total districts in England and Wales had a mortality from diphtheria above the average in the decades 1851–60 or 1861–70, or in both periods, of the densely populated districts only 36 per cent. were above the average. Concerning seasonal prevalence, about four times the number of sporadic cases have occurred in the winter months (October to March), as compared with the summer months. The report, which is drawn up by Mr. Shirley Murphy, also contains an interesting discussion on the relations of scarlet fever and diphtheria. As a subject for the next inquiry a memorandum and card of the treatment of acute gout have been prepared by Dr. Duckworth. In the original communications to be found in this record is an ingenious calculation of the probability of the accidental and fatal incidence of phthisis upon both husband and wife. In other words, it is required to find in how many cases in England and Wales during the decade 1871–80 both husband and wife would die of phthisis, assuming that the chances for married and single are equal in all respects. This calculation, also, has been drawn up by Dr. Longstaff. Dr. Bowles has written a few hopeful pages on the collective investigation of disease, especially with regard to acute pneumonia. A few suggestions for future investigations are incorporated, and the republication of the memoranda and cards already issued conclude the record.

THE DRAINAGE OF A WEST-END MANSION.

IN the immediate neighbourhood of Pall-mall we recently visited the basement of a mansion belonging to a prominent member of the House of Peers, who had reason to suspect that the drainage was not in a satisfactory condition. To judge from external appearance, the house was in good order, and resembled in every respect hundreds of other similar residences. On removing the floor, however, it soon became apparent that the whole basement was honeycombed with elongated cesspools. A number of large brick drains ran in all directions, divided here and there, as a protection against sewer gas, by dip stone traps. These consisted of square holes about a yard deep and nearly as wide. In the centre a flagstone was inserted that reached down nearly to the bottom, thus forming a sort of syphon-trap; but, considering that about a cubic yard of sewage had to accumulate in this receptacle before any could flow out of the trap, the water had time to deposit the heavier particles held in suspension, and the traps gradually became blocked with hard black sewage matter. The flow thus checked, the numerous brick drains, some two feet in diameter, also became choked up. Some of them were opened in our presence. They were full up to the top with black soil that threw up poisonous gases on being touched with a spade. Several cartloads of this foul accumulation had to be removed, and all this from the basement of one single house and its adjoining stables. The largest drain went direct into the sewer without trap or any sort of interception, and brought back the sewer gas to the servants' hall by means of an aperture under the floor, where a sink-pipe was improperly fitted into the drains. A branch drain under the kitchen floor was leaking. In an ill-ventilated scullery, next to the kitchen, there was a sort of cesspool under the sink, two yards square and one deep, full of greasy, thick, and putrid deposit. The fall of the drain passing under the kitchin sink inclined in the wrong direction, so that the entire drains had to be filled before any liquid could get away into the sewer. In the larder there was another dip stone trap, full of solid deposit, that gave off dangerous effluvium through two ineffectual bell-traps covering the mouths of openings in the floor. Altogether the greatest ingenuity seems to have been displayed in laying down a needlessly complicated network of drains, so contrived that the solids could easily accumulate in them, and that sewer gas could have every opportunity of pervading the whole house in a most insidious and complete manner. The owner of this mansion may be congratulated on having discovered the great danger to which all its inhabitants were exposed, and we only wish that these facts might be more

generally known, for there are hundreds of other houses in an equally bad condition.

OFFICIAL CHOLERA REPORT.

DR. MACKIE, in a further communication addressed to the Foreign Office, gives details as to certain cases of fever which have appeared in Alexandria, and which in many respects resemble petechial typhus modified by local, malarial, and other circumstances which tend specially to favour remissions. Dealing with the question of continued fever in its relation to the epidemic of cholera, Dr. Mackie states that whereas all the conditions favourable to the occurrence of the so-called "filth diseases" obtain widely in Egypt, yet typhus is not a disease of Egypt; diphtheria was until recently not a common affection there, and enteric fever, though it frequently prevails and is now somewhat widely distributed on the eastern side of the Delta, yet it is not, and never has been, a deadly epidemic amongst Egyptians. Cholera and plague have, however, found Egypt and the Egyptians favourable to their epidemic development, and Dr. Mackie evidently inclines to the view that the filth conditions which now exist are in themselves ample to explain the recent epidemic. He absolutely denies the importation of the disease, and he does not believe it to be a recrudescence of the 1865 epidemic, due to scattered cases which have occurred from time to time since that date. As regards importation, he expresses the opinion that quarantine measures have all along been ineffectual, and he urges that the fancied security which such measures tend to favour, creates a carelessness as to sanitary progress which has been very disastrous to the country. Indeed, he expresses the belief that, had the money spent on quarantine processes since 1865 been devoted to sanitary improvements under proper supervision, the present epidemic could not have devastated Egypt as it has done. One fact which he records bears aptly upon this subject. He refers to the failure of cholera to make headway in Alexandria as compared with Cairo and other towns, and he explains that, though much needs to be done in Alexandria, yet in point of filth-removal something substantial has been effected. Twice within twelve months the town has been as effectually cleansed as circumstances would admit of, once by the Extraordinary Sanitary Commission appointed by the Khedive after the bombardment, of which Dr. Mackie was a member, and which continued to work in this direction for a period of two months; and again owing to the action taken by the Commission still at work. Such measures may indeed have contributed to effect such a difference between Alexandria and other towns as to explain the greatly differing incidence of cholera upon them.

"CRAMP."

THE notion that all, or even the majority of those, who die in the water are "drowned" is obviously untenable, and it is equally absurd to suppose that those who do not die of drowning perish from "cramp." No doubt cramp does sometimes occur from cold or exhaustion, but in the greater proportion of instances the actual cause of death must be sought in other conditions of the organism. It seems probable that not a few of the so-called "drowned" actually die of apoplexy, induced by determination of blood to the head while swimming, the whole body, except the head, being immersed in cold water while the heart is making the most violent exertions, and the thorax is expanding and contracting with more than common labour. In some instances doubtless there may be spasm of the glottis, consequent on the entrance, or attempted entrance, of water into the larynx. It is manifest that any person, however strong, may be suddenly deprived of the power of self-help by either cramp, apoplexy, or "choking," to use a popular expression, and if assistance be not at hand death through submersion will occur. The victim is unable to call for help and simply sinks. The fact that there are many perils of the sea besides "cramp," should be recognised and borne in mind by all bathers, not only for their own sakes, but for the sake of those who happen to be with them in the water. A friendly eye should be kept by good swimmers on those around, and without waiting for a cry for help, which cannot be uttered, assistance should be rendered to all who suddenly cease to swim or appear likely to pause in their movements, and sink. The effect of cold on the nerve-centres may be paralysing, and death occur without "cramp." This observation is obviously a very simple one, but it would seem that there is need that it should be made.

BENGAL GOVERNMENT CINCHONA PLANTATIONS.

THE result of the planting operations of the year shows a decrease of about 50,000 cinchona trees on the returns of 1881–82. This is due to the uprooting of a large number of the calisaya and hybrid varieties which were found to possess bark of poor quality. Some 160,000 red bark trees were also uprooted in the ordinary rotation, and were replaced by the yellow bark and hybrid varieties. Analysis of several of the barks of the hybrid variety showed that some of them were very rich in quinine. It is satisfactory to observe that the crop of the year is the largest that has yet been harvested on the plantation. The Carthagina bark has proved a failure. A process which consists in shaving off the greater part of the bark of a living tree to the height of from eight to ten feet from the ground has had a fair trial on the Sikkim plantations, and the result has, beyond doubt, been favourable, as the bark renews perfectly. Dr. King, the superintendent of the Royal Botanic Gardens, and of the Cinchona cultivation, has eventually succeeded in obtaining an analysis of the bark renewed on succirubra trees that had their original bark removed by the shaving process. The results are very satisfactory. An interesting feature in the operations of the year is the low cost at which the febrifuge was turned out in the factory at Mungpoo.

THE TEETH OF THE FUTURE.

IN an able address recently delivered, Mr. Spence Bate, F.R.S., has drawn attention to some remarkable features which it may be interesting and instructive to take into account. In the teeth of the Esquimaux, the Red Indians, and the natives of Ashantee, as well as those found in the ancient barrows of England, the so-called interglobular spaces, seen so frequently in sections of modern teeth, appear not to exist; nor, indeed, are they to be detected in the dentine of the best-developed structures of the modern European. Not only is the dentine getting deteriorated, but the enamel would seem likewise to be undergoing a modification, becoming too opaque. In addition to the histological changes, the external form and character of the teeth are sustaining an alteration. This seems to be in relation to an important feature in the history of their evolution. The tendency for the cranium to develop at the expense of the face and jaws is seen to occur as we ascend the scale of the vertebrated series of animals. Owing to this atrophy of the jaws, the proper space for the full play and development of the normal teeth would seem not to be available. At birth the bones are not sufficiently grown to receive the teeth in their normal arch; and, as in the human mouth the premaxillary bones are firmly united a short time after birth, it follows that the posterior part of the jaw is the only place where growth can occur. Any

delay in the development and consolidation of the symphysis must have the effect of contracting the space required for the teeth at this site. In the course of vertebrate evolution there is a marked tendency for teeth to disappear. The lower vertebrates have four molars on each side in each jaw, the higher have three, whilst in man the number is reduced to two.

JURIES CONSIDERED AS MEDICAL CENSORS.

THE *Alfreton Journal* contains an account of the case of George Davis, of Shirland, forty-six years of age, and of an inquest thereon. Poor Davis had been struck on the Thursday preceding his death with a piece of iron on the side of his head, causing a slight but very painful wound. But he worked on till the end of the week. About 10.30 on Saturday he jumped out of bed and begged his wife to rub his head, saying that he felt a sensation like "pins and needles." This feeling soon extended to his arms and legs and was followed by coma. The jury found that he died of apoplexy, and then proceeded to censure Mr. Bingham for not seeing the deceased sooner. Mr. Bingham had been sent for about 1 o'clock on Sunday morning, but had explained his inability to go in consequence of a midwifery case proceeding, by which he was detained several hours. He was sent for again about 8 A.M., having returned from the midwifery case about six. On receiving the message from his servant he seems to have gone to sleep immediately. The messenger waited till he saw Mr. Bingham's little boy in the surgery and told him he wanted his father to go to Shirland. He went and roused his father, who immediately ordered his carriage and drove to Shirland, where he found the patient dead. The case well illustrates the distracting and exhausting duties of country practice and the jaunty ease with which juries censure doctors. Mr. Bingham had distinctly explained his inability to go to the first messenger. He could only have gone on condition of leaving a case, his absence from which might have been fatal, to attend one where his presence could not have averted a fatal issue. His sleep was as involuntary as if it had been caused by opium. And to crown all, the jury proceeded to censure him without asking any questions to elicit the facts. There is a growing tendency in juries to censure doctors. It would be better if they would restrict themselves to the duty of finding out the cause of death. Perhaps Mr. Bingham would have done better, instead of sending medicine to the case, to have referred the messenger to another practitioner, but certainly he did not deserve the treatment he received at the hands of the jury.

MEAT.

THE value of meat as a food is due in a degree to its heat-producing properties, though in this respect it is surpassed by fatty and amyloid substances. It is as a tissue-building material, and as an excitant of assimilative changes in the tissues, both with regard to itself and to non-nitrogenous foods, that it is most useful. It is stimulant as well as nutritive, and it therefore holds a deservedly high place in the daily dietary. Experiment has shown that three-quarters of a pound of lean meat fairly represents the quantity per diem which, taken with other less nitrogenous matter, suffices to maintain a person of average size and weight in a normal state of health. Some there are who largely exceed this standard, eating freely of meat at every meal, and living all the time quiet, sedentary lives. Such carnivorous feeders sooner or later pay a penalty by suffering attacks of gout or other disorders of indulgence. But it is equally important to note that many others, especially women, healthy in all points but for their innutrition, are apt to err as far on the other side. Thus one meets with people who consume about a pound of butcher's meat in a week, or not even that. This fact has been fully brought out by Dr. Graily Hewitt, in his address to the Obstetrical Section at the recent meeting of the British Medical Association. He has likewise with much probability assigned this defect of diet as the chief cause of that general "weakness" which is so common among the antecedents of uterine displacement. The experience of many practitioners will confirm his observation. Different causes are at work to produce this kind of underfeeding—too rigid domestic economy, theoretical prejudices, the fastidious disinclination for food which comes of a languid in-door life without sufficient bodily exercise, tight lacing perhaps, and many more. These difficulties are all more or less removable, unless, indeed, where absolute poverty forms the impediment. No effort should be spared to remove them. The advantages derived from a diet containing a fair amount of solid animal food could not be obtained from a purely vegetable or milk regimen without either unnecessarily burdening the digestive system with much surplus material, or, on the other hand, requiring such revolutionary changes as to quantity and quality of food and times of eating as would probably altogether prevent its general adoption, even were that desirable, into household management. In our opinion, such changes are not desirable, as being inadequate to secure their purpose.

TYPHOID FEVER IN NEW YORK.

THE number of cases of typhoid fever in New York has increased greatly. If we may argue from an account in *The Times*, it would appear that the fever is contagious to a degree not heretofore suspected. The report says that some of the cases investigated were quite as contagious as small-pox, although not so fatal or repulsive; and that in some houses several persons caught the fever from one patient by personal exposure. This experience is certainly not in harmony with what we know of typhoid fever in this country. Perhaps it would be wisest to wait till further details reach us. But we may conjecture that—granting the truth of the high degree of contagiousness for the nonce—peculiar circumstances, such as locality, state of atmosphere, state of general health, &c., may possibly render the disease more catching. On the other hand, it is not impossible that the alleged cases of contagion were really instances of coincidence, and that the individuals affected secondarily got the malady from a similar source to the primary case.

HOLIDAYS AT SEA.

HOLIDAY-MAKERS desirous of refreshing change will do well to take advantage of the many facilities for sea-voyaging which our times afford. The air of the open sea or ocean is in all points more health-giving than that of the coast. It is uncontaminated by land-smoke or effluvia; it contains more of that excellent blood-feeder, ozone; it can be had of almost any temperature by the adoption of one or other of many sea routes, from the bracing coldness of the nothern ocean to the genial warmth of the Mediterranean or Madeira. Again, to the sailor, it is always at hand, no need to pass through bustling streets to a pierhead to enjoy its freshness. The constant change of scene is another agreeable circumstance in such a mode of travelling, and brings mental relief, appreciated by men who are usually engaged in anxious and monotonous work. Food, of course, varies in quality on board ship, as it also does on shore; neither is there ready escape in the former case from dietetic discomfort. But we believe there is not, on the whole, much ground for complaint on this score on the more frequented lines. Meal times, at all events, are regular, and the fare usually wholesome, plain, and abundant. To many these are real, though, perhaps, underrated benefits. The class of men which profits most by a sea trip consists of those whose

chief trouble is exhaustion—the great multitude of the atonic, the weary refugees from city labours and perplexities, "brain workers" whose nervous energy has run down, mentally jaded, but capable of quick return to vigour under the influence of rest from work and a bracing atmosphere—in short, precisely those persons for whom the annual holiday is a physical necessity. Certain classes of invalids, also, do well with sea journeys. Among these are sufferers from various chronic nervous complaints, dyspeptics in whom want of power is the prominent feature rather than irritability of stomach, and convalescents from some acute non-infectious diseases. For all such a cool or keen northern air is better than a merely temperate, or a warm subtropical climate. Other types of disease again require more heat. Inflammatory chest affections, which tend to become chronic, pleurisy which has passed off and left an irritable lung, chronic kidney disease, lingering remains of old dysentery, chronic rheumatic disease and gout, and maladies due to cold and exposure generally, constitute this group. It must not be forgotten that the *sine qua non* for any sea sailing at all consists in a stomach and sympathetic nervous system not too readily subject to sea-sickness. For want of this qualification of immunity suffers from hepatic disease make bad sailors. Those afflicted with vertigo are also among the disqualified. There are many facilities now to tempt the water tourist. One may at moderate cost see the best parts of the British coast in a week or two; in a month or six weeks he may see much of the south of Europe, or of America; and if he have leisure and means he may profitably pass six months amid the luxuriance of the West Indian Archipelago, or traverse New Zealand from end to end, and return to spend the next half year at home. But whatever the period, a vacation cannot be spent by those who are not constitutionally unfit in a way more truly refreshing than on board a comfortable passenger steamer.

ELECTRIC LIGHTING AND VENTILATION.

ALTHOUGH the moderation of the heat of the atmosphere of our public buildings and theatres is much to be desired, yet the use of the electric light does not do away with the necessity for systematic ventilation. Professor Pettenkofer has made some investigations at the chief theatre in Munich on the composition of the air during gas and electric lighting respectively, and, as might have been expected, has found a great difference in temperature, especially in the upper parts of the house. But analysis of the air showed that the proportion of carbonic acid was not very different with the two methods of artificial lighting. It is more than probable, therefore, that the large amount of carbonic acid (and we may add other even more noxious agents) present in theatres during the performance is due to insufficient ventilation. Gas properly used helps to purify the air by creating currents which introduce fresh supplies through every available opening.

HOMŒOPATHY BEGGING.

VARIOUS papers contain the following:—"Major Vaughan Morgan has offered to contribute £5000 in five yearly instalments to St. George's Hospital, on the sole condition that the money should be devoted to a fair trial of homœopathy in the wards of that institution. The offer has been declined by St. George's, and is now made to any other hospital in London that chooses to accept the condition." We cannot doubt that every hospital but one in London will decline such a proposal, which, of course unintentionally, is disrespectful in the highest degree to the medical profession. It assumes that there is something—in fact, a whole region of therapeutics,—neglected by responsible and educated physicians and surgeons. The assumption is utterly untenable. Homœopathy is a fad, and it has its hospital. It is not science, and it cannot have the recognition of a general hospital. If Major Vaughan knew medicine in the scientific sense as he knows the art of war, he would see that to take homœopathy into a regular hospital would be as reasonable as it would have been to take a popgun to Tel-el-Kebir.

THE CASE OF MYSTERIOUS STABBING.

WE have received the following particulars of the case of Mr. Mundee, who was wounded under rather mysterious circumstances whilst riding in a cab:—The patient was admitted into the Royal Free Hospital, September 7th, at 1.45 A.M., under the care of Mr. Gant. On admission he was more or less unconscious, partly from shock, combined with intoxication from drink. There was a punctured wound in the thorax, one inch above and rather to the inner side of the left nipple, corresponding to the fourth intercostal space, and an inch and a half from the costo-sternal articulation. Arterial blood flowed continuously at first, and afterwards at intervals, until 8 P.M., when the hæmorrhage finally ceased. As the front of the patient's shirt was saturated with blood before admission to the hospital, it is calculated that he lost altogether at least four ounces of blood. On examining the wound with a probe the track was found to take a direction outwards and penetrating the pleural cavity. Air escaped through the wound, and some expectoration which soon ensued was streaked with blood. Present state: The wound has closed up to the level of the skin and presents only an oval aperture half an inch in length; the surface is quite healthy, just moistened with discharge; there is no induration or discoloration around, nor tenderness on pressure. The breath sound around is free, and the heart sounds are normal. The pericardium probably escaped injury, although the overlapping portion of the lung was implicated. From the outward direction of the wound the mammary artery was not involved, and the temporary hæmorrhage would not apparently have proceeded from the intercostal artery in the upper margin of the fourth space. The punctured and penetrating thoracic wound was such as might have been produced by a small knife-blade or a dagger, but not of triangular form, the wound being a clean, oval cut, without any laceration. The direction of the wound is such that it might have been self-inflicted.

FOOT AND MOUTH DISEASE AND THE SUPPLY OF MILK.

THE rapid extension of foot-and-mouth disease in various parts of the country, and the well-known fact that in the early stage of the disease some dairy farmers use the milk and deliver it to their customers, should make the profession careful to inquire into the cause of aphthous and other eruptive states about the mouths of children. There has been doubt expressed as to the effect of the use of such milk on the human subject; but in some cases it has unquestionably been followed by definite symptoms of ill-health and eruptions about and within the mouth. It is possible such results only ensue during one stage of the disease, but the subject merits investigation whenever an opportunity occurs.

ANATOMICAL PROFESSORSHIPS IN DUBLIN.

THE election to the University chair takes place on the 29th inst., and as Dr. Cunningham is very likely to be chosen, the Royal College of Surgeons will be called on a month later to fill his vacancy. We understand the emoluments may be estimated at from £600 to £700 annually. The professor devotes his entire time to the superintendence of practical anatomy and of the histological laboratory.

THE PRESS AND THE DUSTYARDS.

WE are glad to note that some of the lay papers have taken up the subject discussed in our special report on the Dustyards of London. In comparison with many other difficulties, this grievance could be more easily remedied if sufficient public pressure is brought to bear. There are two methods available of dealing with the dust that would reduce the danger to a minimum. The dust must either be shot direct into barges, which should not be allowed to linger more than a day at the wharves, or else the entire refuse must be thrown straight from the carts into a furnace. The *Standard* devotes a column to advocate the latter solution of the problem. The publicity thus given to our complaints by so influential a paper will, we are certain, be productive of great good; and though no acknowledgment is made of our previous efforts in the same direction, we congratulate our daily contemporary for the public service it has rendered. The *Globe*, the *Daily Chronicle*, the *Building News*, and many other papers, by quoting our report, have all helped to bring home to the public the dangerous nature of the dustyards which are still tolerated in our crowded centres, and we beg cordially to acknowledge their courteous assistance, for without this very effective co-operation it would be no easy matter to move the various local authorities responsible for the present unsatisfactory state of affairs.

WASP STINGS.

THIS being the season at which petty questions and grievances are most likely to be relieved or redressed by the publicity offered by the press, a considerable number of correspondents are expressing the burning interest they take in the treatment of "wasp stings." There can be no doubt that under certain conditions the sting of a wasp may prove very injurious, or even dangerous to life. We are unable to endorse the opinion that there is no danger unless there be fear. It is quite possible that the sting of any insect capable of generating a poison may be fatal without the intervention of panic. The nervous system is in some of its states exceedingly susceptible of sudden impressions, which, as it were, "stagger" the nerve-centres by shock. The bites of small snakes probably act in this way, and the sting of a wasp may prove fatal in the same fashion. As to remedies, ammonia is, of course, the obvious recourse; but almost anything "strong," in a popular sense, will generally suffice to decompose and destroy an organic poison if instantly applied. This is why the juice of an onion answers the purpose. Anything equally pungent would do as well.

THE CHOLERA EPIDEMIC.

THE risk of any cholera prevalence in this country during the coming autumn may be regarded as having all but passed away, and now the outbreak in Egypt is rapidly becoming a matter of history. The disease still lingers to some extent in many of the villages of Upper Egypt, and cases still occur in Alexandria, but they are few in comparison with what they were, and the modified severity of the individual cases betokens the decline of the epidemic. As to the origin of the outbreak, there is still a good deal of uncertainty, and we think it well to reserve any opinion until the detailed reports of the Special Commissioners sent out by our own and other Governments have appeared. There are, however, strong grounds for believing that those who maintained the importation theory have been unable to procure any facts in support of the contention, whereas an increasing belief prevails that there have been in Egypt groups of cases so far resembling cholera that it has been impossible to discriminate between them and the genuine disease, and it is assumed that these may form a link connecting the 1883 epidemic with previous ones in Egypt. According to the *Rassegna*, a proposal of the Italian Government to the assembling of a Conference on the subject of cholera has received the assent of our own and several other European Governments. Whether this be so or not, we are convinced that nothing has occurred during the past epidemic to show that the decisions arrived at by the last Vienna Conference are in any way faulty, whereas the stringent quarantine measures advocated both by the *Rassegna* and the Italians as a body never exhibited such complete failure as they have done in Egypt.

MR. GLADSTONE.

IT is very gratifying to Englishmen of all creeds and in every division of the kingdom to note the zest with which the Premier has gone in for his holiday—reading Lessons in the parish church at Hawarden the day after his escape from town, felling sturdy oak trees a day or two later, and then, the fickle weather notwithstanding, taking bravely to a ship and exploring the islands of the West of Scotland. Men of different temperament might have betaken themselves to bed and the seclusion of the house after such a long and laborious session as Mr. Gladstone has passed through. But such is not the manner of Mr. Gladstone's recreation. In other scenes, especially the scenery of nature, and in other pursuits, he finds his refreshment. True, he takes his trusted physician with him; but doubtless rather for the sake of his society than his physic, for, to their mutual credit, they have seen little of each other lately. We have only to express the hope that the weather may prove propitious, and that Mr. Gladstone may find in the ozone of the Hebrides or of Norway that stimulant of nature which will perpetuate his admirable health.

BOOKS FOR WORKHOUSE INFIRMARIES.

WE are apt to think that in ministering to the intellectual wants of the general and other well-known hospitals we have discharged our debt of human charity in this respect, and to forget that there still remain many sick poor in asylums of a lowlier grade whose wants have been overlooked. These often possess sufficient education to enable them to enjoy light reading. They find the long hours of convalescence or of chronic illness hang heavy without some such diversion. But few other occupations are possible, and none probably so interesting. We therefore think it only right on our part to remind the book-perusing public that any volumes whose contents are now trite to them may yet bring happiness and light to others doubly unfortunate through poverty and suffering. Books, magazines, illustrated papers, are all of use. Books should not be long-winded, but light, entertaining, and of a cheerful tone, not solely religious nor yet exclusively secular—in a word, suitable to varieties of temperament and different degrees of intelligence.

FISH DIETARY.

WE are glad to observe that the practice of giving paupers a fish dinner at least once a week is extending. There are, of course, instances in which the method has been tried and abandoned. Where this occurs, the master of the workhouse is generally the real author of the objection to fish dinners. They are, doubtless, somewhat troublesome to prepare and serve, and, being not unnaturally disliked by the purveyors of butcher's meat, the tradespeople supplying the workhouse commonly know how to impress the master with their views. Boards of guardians should be on the alert against corrupt practices of the class to which we point. On its dietetic merits the fish dinner movement must ultimately succeed.

DEFORMITY OF THE UPPER JAW, AND ADENOID GROWTHS OF PHARYNX.

AT the twelfth session of the French Association for the Advancement of Science held at Rouen, M. David of Paris read a paper in which he maintained that adenoid vegetations, which are so frequently developed in the naso-pharyngeal cavity of the infant, reveal themselves externally by a peculiar aspect of the face. This modification of the physiognomy consists essentially in a deformity of the superior maxillary bone. The buccal portion of this bone becomes flattened transversely so that the dental arch does not keep its natural shape and dimensions; and the hard palate becomes high and narrow. Irregularity of the teeth follows, because they do not alter, but the space for their accommodation is lessened. For the most part they tend to project in a mass forwards, so that the lower lip may be partially hidden by the front upper teeth. This special conformation of the palatal arch has hitherto received different interpretations. An ethnological signification has been accorded it. Some regard it as a sign of superiority, others of inferiority, of race.

SEA-SIDE DRINKING WATER.

THE unsatisfactory state of the water-supply in many of the smaller and some of the larger watering-places at home and abroad attracts increasing attention. Hastings and Margate are very badly placed in this respect. But is it not possible that the deductions from chemical analysis have sometimes been a little too severe? The presence of chlorine in such water, obviously proves nothing but an infiltration of sea water. But the water is sometimes condemned on the evidence of organic carbon and nitrogen found by Frankland's process; and it is not generally known that sea water, even when uncontaminated with sewage, yields a great deal of organic carbon and nitrogen. The extent to which infiltration of sea water has taken place can be measured approximately by the chlorine, and this enables a correction to be applied to the carbon and nitrogen. In chalk waters the presence of nitrates affords no evidence. On the other hand, albuminoid ammonia affords a valuable indication, as pure sea water yields almost none.

THE PROPHYLACTIC ACTION OF COPPER.

IT will be remembered that evidence has recently been given by M. Bailly to the Académie de Médecine tending to refute the doctrines of M. Burq, that those persons who are thoroughly submitted to the influence of copper are incapable of taking cholera or typhoid fever. M. Burq has replied to these objections. He says that the metal *alféniде* employed in the factory referred to by M. Bailly is white metal in which copper is present only in very minute proportion. And further, that the locality of Chambly is traversed by a stream into which all the filth of the factory is ejected. In consequence M. Burq thinks that the presence of typhoid fever and choleraic diarrhœa is not at all astonishing.

POLICE "BOXES."

NOT a few of the suggestions offered by sentimental folk for the supposed advantage of special classes of the public are very silly, but Mr. James Gilden of Phillimore gardens, has made a proposal in *The Times* which would appear to be deserving of consideration. When the police superseded the old watchmen, the "boxes" in which the former guardians of the night were wont to hide themselves, and in which they used to be occasionally hung up, or overturned, or transported from place to place against their will, were done away with as obsolete. This was all very well while the policeman patrolled a beat; but now that certain of the police are permanently located at fixed points, so as to be available instantly when wanted, they ought to be provided with sentry-boxes. In some way doubtless this suggestion ought to be carried out. Nothing is gained by exposing a man in all weathers at a draughty street corner without any protection. We hope to hear that Colonel Henderson has taken the matter up, and secured such provision for his men as is commonly accorded to sentries.

SUCCESSFUL CÆSAREAN OPERATION.

ON June 16th, according to *Il Sperimentale*, Dr. del Chiappa performed the Cæsarean operation on G. B——, a primipara, aged thirty-three, suffering from rickets. When summoned to the patient in labour, Dr. del Chiappa, finding delivery impossible, in consequence of great narrowing of the antero-posterior pelvic axis, resolved on performing Cæsarean section. Through an incision in the linea alba a living female child was extracted from the uterus, which was left to itself and not sutured. The wound in the abdominal wall was closed by superficial and deep sutures and dressed with adhesive plaster and charpie. The temperature varied little from the normal standard throughout, only reaching 102° one day. On the fifteenth day (July 1st) the wound was completely healed and the patient got up. The child continued to thrive.

THE RELEASE OF DR. STORY.

WE are glad to hear that this unhappy member of our profession, who was unjustly condemned and sentenced to penal servitude for setting fire to his house, is to be released. The case was more than sufficiently clear. If Dr. Story did commit the offence with which he was charged, it must have been done in a fit of mental derangement. Juries are not well instructed, and judges are not very wise, on the subject of temporary insanity; the liberty of the subject is not safe in their hands. It is time that something more than the pardoning of guiltless persons or the releasing of those who have been cruelly incarcerated in prison should be accomplished. We need a court of criminal appeal, and in connexion therewith an organisation of some special kind, by which the question of insanity, with the cognate issue of irresponsibility, should be dispassionately and intelligently tried.

HELD IN TRUST.

WE are at a loss to characterise the culpable folly of those who have recently proposed to make a boy swim or float across the Channel in what is called a "life-saving dress." What persons who think themselves justified in these freaks fail to perceive is that human life and health are not free gifts of Nature to man, in which he has acquired an independent property, and which he may dispose of as pleases him. Life and health are held in trust by the individual for the benefit of the species; and, while it is incumbent on every one to subordinate personal to social considerations, it is not permissible to squander the property of the race. A suicide and a reckless adventurer are alike offenders against public expediency.

DEATH FROM PASSION.

CASES in which death results from the physical excitement consequent on mental passion are not uncommon. A recent instance has again called attention to the matter. Unfortunately those persons who are prone to sudden and overwhelming outbursts of ill-temper do not, as a rule, recognise their propensity or realise the perils to which it exposes them; while the stupid idea that such deaths as occur in passion, and which are directly caused by it, ought to be ascribed to "the visitation of God," tends to divert attention from the common-sense lesson which such

deaths should teach. It is most unwise to allow the mind to excite the brain and body to such extent as to endanger life itself. We do not sufficiently appreciate the need and value of mental discipline as a corrective of bad habits and a preventive of disturbances by which happiness, and life itself, are too often jeopardised.

LIQUID OXYGEN AND NITROGEN.

WE are slowly learning more of the liquid and solid states of the elementary and compound bodies formerly known as permanent gases. According to the latest researches oxygen, when cooled to 136° C. (213° F.) liquefies to a colourless transparent liquid at the very moderate pressure of 23 atmospheres, or thereabouts. Nitrogen at the same temperature does not liquefy at a pressure of 150 atmospheres, but yields a colourless liquid, with distinct meniscus, when the pressure is cautiously allowed to fall to a point not lower than 50 atmospheres. It is now well known that ozone, under quite moderate limits of pressure and temperature, is a liquid of intensely blue colour, which gives a vapour which can only be compared in colour with the brightest blue sky. In this condition ozone is a most potent body, decomposing with explosion upon slight provocation into common oxygen. Pure alcohol is a white solid at about 130° C. (202° F.). At a very slightly higher temperature it is viscous, like oil.

THE OUTBREAK OF FEVER IN NORTH LONDON

THE outbreak of fever in North London does not appear to be limited to the parish of St. Pancras. The last weekly return of the Registrar-General states that the deaths from enteric fever, which had been 9, 16, and 21 in the three previous weeks, further rose to 35 last week, and were more than double the corrected weekly average. Distributing the hospital cases, 13 belonged to St. Pancras, and 8 to Islington. Islington has therefore suffered, though in a less degree than St. Pancras. In all probability the maximum number of deaths has now been reached; for the outbreak appears to have begun early in August, and the majority of deaths would have taken place and been registered within four weeks of the beginning of the illness. The Registrar-General's figures, of course, take no account of those persons who, leaving London for their holidays, were infected before their departure and who have died in other parts of the country in private houses.

CLERKENWELL MORTUARY ARRANGEMENTS.

IT is all very well for the committee of the Vestry of St. James's, Clerkenwell, to pronounce the accounts of the breakdown of the hearse laden with decomposed bodies exaggerated. But they have not succeeded in proving their point. Rather have they shown that their past arrangements have been such as to lead to such a scene as that which occurred in Exmouth-street a few weeks ago. We are glad to see that the Vestry has made other rules. If it sees them carried out, there may be no recurrence of such scandals. If it does not, they will not escape very severe criticism.

THE Finchley Local Board are to be congratulated on the determination they have shown to require compliance with the sanitary provisions of their bye-laws as to new buildings. In a recent case a builder had neglected to provide nearly all the main requirements as to drains and drain ventilation which are necessary to health; but as he undertook to amend the whole, a nominal fee only was inflicted when the case came before the magistrate. Such action as this will give confidence to persons intending to rent or purchase new residences in the Finchley district.

DR. HODGES, who has recently analysed the water supplied to the Belfast workhouse, reports that the specimen of water contained so much earthy and organic matter as to render it unsuitable for domestic use unless submitted to filtration. It is satisfactory, however, to find that the water was not contaminated with sewage.

A CASE in which the middle phalanges of the index, middle, and ring fingers of the left hand were completely dislocated on to the dorsa of the corresponding proximal phalanges, is recorded in a recent number of the *France Médicale*.

IN a communication to the Académie des Sciences, M. Krechel has drawn attention to another method of adulteration of milk, which consists in adding to it an aqueous solution of commercial glucose having the same density.

WE learn that a young physician practising in Chicago, Dr. Frank Lee Rea, died last month from malignant carbuncle of the lip. He was a man of very good abilities, and had greatly endeared himself to all who knew him.

MR. F. HENSTON has been appointed Lecturer on Anatomy in the Carmichael Medical College in the vacancy created by the death of Dr. Loftie Stoney.

AN interesting work treating of the history of the Salpétrière from 1656 to 1790 has recently been published in Paris.

THE annual meeting of the Académie de Médecine will be held in December next, when the distribution of prizes for the years 1882 and 1883 will take place.

MR. T. COLCOTT FOX has been appointed physician to the Skin department at Westminster Hospital.

THE EXHIBITION OF HYGIENE AT BERLIN.

II.

IN close proximity to the collection of plans and models furnished by the Berlin Municipality are to be found similar though less extensive exhibits from most of the important towns in Germany. Vienna also has a separate court assigned to it, and many of its charts and plans are most instructive, especially those which indicate the diffusion of cholera in the last great epidemic, and those illustrating the diminution in the prevalence of typhoid fever since the adoption of a more complete system of drainage. It is most gratifying to observe the remarkable growth of the care for the public health that has taken place within the last few years in these towns, and the number of public works connected with drainage and water-supply that have been quite recently introduced with striking effect in the prevention of disease. Attention is also particularly invited to the large relief map of the Duchy of Würtemberg, in which there is now established a large system of pumping stations for the supply of pure water to the villages in the numerous valleys.

The various departments of the Prussian Government are represented by models and plans of reformatories and prisons; a large model of the harbour of Swinemunde and maps of the shores of the North Sea and the Baltic indicating the lighthouses and their range of illumination, together with the casualties that have occurred to shipping along the coast during the past four years. Of more special interest

to the medical visitor are the models and plans of several new university and hospital buildings. Here we see the admirable Physiological Institute of Berlin; a model of the lying-in clinic at La Charité; the surgical clinic (children's wards) at Halle, built on the pavilion system, slightly elevated and surrounded by a verandah; models of wards, operating theatre, &c., from Königsberg; a large collection of drawings and plans of the new buildings of the University of Bonn, including the various clinics, the pathological institute, &c.; and similar plans from Kiel. One of the most striking exhibits in this department is that of the Royal Technical High School at Aachen, showing the chemical laboratory in models of one-fifth the natural size, with all the fittings admirably reproduced, whilst the systems of ventilation, heating, gas, and water-service in the whole building are indicated on plans.

There is a very large collection from various sources of the means taken to protect workers in trades known to be obnoxious to health; and not only do we find here the methods of protection against the inhalation of dust and deleterious metals; but mining and the safeguards against explosions are also illustrated. The protection of life from fire and the methods of railway signalling also find a place; but we may turn from these and many other subjects of general interest to the more purely medical exhibits. There are, of course, collections of surgical instruments, the most notable being that by Dorffel of Berlin, who, amongst other matters, shows a complete series of ophthalmic instruments, including the ophthalmoscope from the earliest model to the most recently finished instrument. Close by are to be found the most approved antiseptic dressings, and all the essentials of surgical practice. Hartnack has examples of his microscopes and physiological apparatus; and in another part are exhibits of pharmaceutical preparations. Drs. Furst of Leipsic and Pissin of Berlin illustrate animal vaccination in a very realistic manner, in the form of models of the calf after inoculation. Prof. Lucæ exhibits some large drawings of various otoscopic appearances of the tympanum; but diseases of the eye are far more fully represented, and the means of correcting aberrations in vision are all shown. Prepared foods of various kinds have also space allotted to them; and clothing is fully represented in many exhibits. There are also specimens of baths, lavatories, waterclosets, &c., of the most approved pattern; and many other matters which it would take too long to particularise. Mention should, however, be made of the collection of educational appurtenances, the specimens of school furniture, and the apparatus employed in teaching, from that of the Kindergarten to the delicately finished models of plant and animal ferns in use in the higher schools.

The building also contains a reference-library and a reading-room. In the latter there is an abundance of periodical literature, and in the former a large collection of works, which may be consulted by the visitor. A catalogue of this library, which is not the least instructive part of the Exhibition, has been compiled by Dr. Villairet. It comprises 144 pages, and is, perhaps, the most complete catalogue of all works bearing on sanitation in existence. The portion of the Exhibition that is contained in the park and in the arches of the railway viaduct is even more full of interest than that within the building itself. Nearly thirty of these arches are devoted to exhibits, the most noticeable being those containing the field waggons and their full equipment as in time of war. Nothing has been omitted, and the surgeon will be interested in seeing how thoroughly this branch of the service is carried on. Antiseptic surgery finds a prominent place here. The marine department is also represented, and one has the opportunity of seeing the nature and extent of the accommodation provided for the sick and wounded on board ship, the apothecary's store, &c. Another of these arches is fitted up as a Turn-halle; and in the park itself a large area is also reserved for gymnastic appliances. There is also a large collection of railway rolling-stock, carriages being converted into hospitals, with wards, drug-rooms, and kitchens; whilst the more luxurious dining- and drawing-room cars of the International Company stand side by side with the foregoing. Amongst the numerous buildings in the park itself may be mentioned the Crematory of Messrs. Siemens, where the plan for carrying out most effectually this revival of an ancient rite is to be seen. The Volks-Kuche of Berlin, an institution for furnishing cheap and wholesome dinners to the poor, is represented here, and many visitors avail themselves of the opportunity to test the quality of the viands they furnish; and close by the Society of Cookery has an establishment to be seen in full working order. Even public baths are represented, and a douche bath can be indulged in for the expenditure of ten pfennigs. The self-registering instruments of the Meteorological Institute are shown in working order; and in other parts are apparatus for saving life from fire, and contrivances to obviate the effects of collisions at sea. There is also a house with rooms fitted up in various styles for various purposes, intended to illustrate the best kind of domestic hygiene applicable to all classes. And in one corner of the grounds is to be found a reproduction of a gallery in a coal mine, so that there can be no question as to the wide scope which the Exhibition embraces.

The most interesting building of all to the scientific visitor is that which is in the occupation of the Imperial Board of Health, of which the world-famous Dr. R. Koch is the director. This contains two laboratories, the one devoted to research upon infectious diseases and on disinfection, the other to the analysis of foods, water, &c. The former laboratory contains the microscopes and reagents employed in the search after micro-organisms, and a large number of specimens of cultures in potato, in gelatine, in infusions, and in blood-serum of all the pathogenic and non-pathogenic bacteria. By an excellent arrangement there is a demonstration given here three times a week by one of Dr. Koch's assistants. On the occasion of our visit Dr. Loeffler was the demonstrator, and fully two hours were passed in this very instructive manner. He commenced by showing the cultures on the potato, and described all the precautions taken to prevent contamination; and conclusively proved how distinctive are the characters of these minute organisms when seen in the mass by the unaided eye. He then described the method of cultivation in gelatine, and afterwards in fluids; terminating with a description of some recent investigations into lactic and butyric fermentation. In like manner are the methods of analysis fully explained, so that a few visits to this pavilion should be of great advantage to those who take an interest in researches that are revolutionising our conceptions of disease. In the same building is a dark chamber, and a camera for micro-photography; and a large collection of photographs on glass of micro-organisms—e.g., the erysipelas micrococcus seen in the cutaneous lymphatics, the anthrax bacillus, the bacilli of rabbit septicæmia, typhoid bacillus, sections of ulcerative endocarditis, osteomyelitis, diphtheritic membrane, pyelonephritis; the spirillum of relapsing fever, the tubercle bacillus, and others. The clear definition of these photographs is remarkable. In the corridor between the laboratories are hung charts and tables showing the causes of infantile mortality in Germany for the three years 1875–77, and a series of fourteen tables of comparative mortality in the chief cities of Europe in the five years 1877–81.

From this brief description it will be seen how vast and varied a collection the Exhibition contains, and how much there is to be learnt by visiting it. To reap the full benefit from it one must not, however, be content with such a cursory glance as is here taken. To those who have the time and opportunity a fortnight spent in Berlin for the express purpose of becoming acquainted with the contents of the Hygiene-Austellung will be certain to result in the acquisition of much valuable knowledge.

Berlin, August, 1883.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS TO THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Diphtheria at Oaksey.—Dr. A. H. Downes, medical officer of health to the Chelmsford and Maldon districts, was recently instructed to make an investigation on behalf of the Local Government Board into the circumstances attending an outbreak of diphtheria in the village of Oaksey in the Malmesbury rural district, and his report has now been issued by the Board. Oaksey has a population of 419 people, it lies on the Oxford clay on a commanding site freely exposed to every wind, but the land slopes to the

south to meadows which were exceptionally and largely flooded in the autumn of 1882. The diphtheria in question commenced in June, 1882, and off and on it continued for twelve months, sixty-five cases with seven deaths occurring. Up to 1879 there had been, since the registration of deaths came into operation, no fatal case of any throat illness, including non-spasmodic croup, in Oaksey, and the neighbourhood is one that has been markedly free from diphtheria. But no antecedent case of throat illness, nor indeed any epizootic disease, could be heard of in and about Oaksey, to which the cases in question could be traced. Towards the end of May, however, a child who had suffered from sore-throat at Cirencester, and who had in consequence been kept from school, was sent to her grand-parents at Oaksey, and it is remembered that on her arrival she had certain difficulty of swallowing, her voice was "peculiar," and there was some impairment of vision. Within nineteen days of her arrival, one child living in the same house and a second living next door, neither of whom attended school, or had otherwise run risk of exposure to infection, sickened with diphtheria. Another case of throat illness occurred in the middle of July, odd cases are recorded in August, September, and October; the main incidence of the outbreak was in the latter part of November and the beginning of December, and other cases occurred at a later date. Personal infection evidently came largely into play, especially in children attending the church and chapel schools. The former was closed from November 30th to January 22nd; children from infected houses alone being excluded from chapel schools. From a series of tables prepared by Dr. Downes, and based on a census of Oaksey, it appears that chapel attendants suffered most severely, and that the stress of the disease was upon children from four to fourteen years of age. This age being the ordinary school age, the special incidence upon children from four to fourteen years, naturally suggests school influence. But it was sought to ascertain how far this age may be regarded as a predisposing cause to diphtheria apart from the question of school attendance, and the conclusion arrived at is that there must have been in Oaksey influences apart from that of mere age predisposition, determining special incidences of such attacks on that age. The question as to what constituted these special influences in Oaksey is discussed at very considerable length in the report, attendance at church and chapel, and at church-school and chapel-school, being entered into with much minuteness, and the whole circumstances being embodied in a series of further tables. The outcome of the discussion shows that at Chapel-end, and amongst chapel-goers, there was an exceptional incidence of throat disease whether primary or subsequent attacks be regarded. The chapel risk was also learned to extend beyond the four walls of the building, and to be, at least in part, due to a degree of "neighbourliness" which prevailed exceptionally amongst members of the chapel community. Reviewing the circumstances of the outbreak it would appear originally to have been due to imported infection; for a while the contagium passed on independently of school influence, among adults in the main, and with difficulty; once in the schools special facilities for spread were afforded, the facilities as to chapel-goers much out-weighing those attending church, and finally, the seasonal influences of autumn weather, favoured by undue moisture and rainfall, came into play. The method in which the whole subject is handled deserves the greatest credit; indeed, a mere abstract of the report fails to convey a correct impression of the pains and labour which Dr. Downes has devoted to the elucidation of one of the most interesting diphtheria outbreaks that has as yet been officially reported on.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Faversham.—Dr. Atthill reports an outbreak of small-pox in 1882, and explains that the district being without means of isolation no proper separation of the infected could be carried out. In all some twenty cases occurred. The district appears to have been fairly free from obvious cases of typhoid fever, but a few deaths from this disease were registered, and Dr. Atthill assumes that owing to the fact that they were sporadic, and to other circumstances, some misdescription in registration took place. Whether this was so in this case or not we cannot say, but the same is often alleged as regards febrile conditions in which the typhoid symptoms are not clearly recognisable. So far as we can gather, however, there is little use in drawing any line of distinction in such cases. If such diseases, whether they be called simple continued fever, febricula, or otherwise, occur, they should, for sanitary purposes, be regarded as standing in much the same position as enteric fever, and this is especially the case where they end in death. Faversham, though an old town, still trusts to local wells, and Dr. Atthill very properly points out that the failure of chemical analysis to find polluting matter in a given sample, by no means disproves the risk of pollution to which the water is subject. The public water service needs to be more used, connexions with the public sewers should be hastened, and the authority would do well to provide itself with a hospital site, without waiting for fresh Parliamentary powers; many other authorities have done so, and Faversham could probably do the same. A useful disinfecting stove has already been provided.

Belper (Rural).—Mr. Gayler puts before the Sanitary Authority the needs of the Alfreton district of this union in the matter of means for isolating infectious diseases in a very clear manner, enforcing by excellent examples the view that the necessary expenditure should be looked upon in the same sense as premiums of fire insurance. We may also point out that since no one grumbles to pay his premium because his house is not burnt down every year, so no one should avoid paying a rate for the provision of that which, by the extinction in the future of what would otherwise be a serious epidemic, will in the end save much life. Mr. Allen, in reporting on the Belper portion of the district, reverts to the same subject, as also to that of disinfection. As regards the latter, we think that in view of the very efficient means available both by Ransom's hot-air stove and by Lyon's steam apparatus, a needlessly desponding view is taken in the sentence that "the providing of a proper disinfecting apparatus is still to be found in the womb of the future."

Mile-end Old Town.—Mr. Corner has presented to the vestry a summary of the work performed by the Health and Sanitary Department, from the passing of the Metropolis Management Act (1855) to the present time. The report states, year by year, what were the principal measures adopted; it covers the proceedings taken in 1866, during the last cholera epidemic, it refers to the localities where measures, under the Artisans' &c. Dwellings Act, became necessary, to the small-pox outbreaks in 1871, 1877, and 1880, and it explains how, during the twenty-six years in question, the population has increased from 61,500 to 110,000, how cesspools have given way to a system of arterial drainage, how wells infiltrated with sewage have been closed, and how innumerable have been the visits and proceedings in the matter of the abatement of nuisances. Taking quinquennial periods, and excepting only the cholera mortality in 1866, some fairly steady improvement has taken place in the death-rate, notwithstanding the great increase of population, and it is evident that the sanitary measures adopted have gone far to effect a considerable saving in life.

Huddersfield Urban District.—Dr. Cameron reports that the death-rate during 1882 was 22·6, much about the same as that which has prevailed as an average for the past twelve years. The infantile death-rate has increased; and during 1882 the rate under one year of age was as high as 183 per 1000 births. This has been largely due to an epidemic of measles and whooping-cough. Measles was especially prevalent, its rapid increase coinciding with a somewhat high barometric pressure, an increasing temperature, a considerable variation of day and night temperatures, and a scarcity of rain. Indeed, Dr. Cameron is of opinion that the poison of measles hung about the close courts and yards in a way which would have been impossible had there been a wholesome washing of the air by rain, and an ample wind. Measles is one of the diseases which has to be compulsorily notified under the Local Act, but isolation is regarded as impracticable, and hence, as yet, there seems not much more to be done than to let the disease "exhaust itself," whilst as much attention as possible is given to the regular removal of all insanitary conditions. The privies need more looking after; they are not cleansed with sufficient frequency, and, in view of their exceedingly offensive state in the warmer weather, it is almost certain that in point of construction they must be faulty.

Whitechapel.—Mr. Liddle, in his annual report for 1882, gives some additional reasons in favour of the transfer

which has since been effected, of bakehouse inspection from the Factory Office to the sanitary authorities. In one bakehouse it was mentioned that a man suffering from fever had been sleeping for some nights on the flour sacks. Frequent inspection will be necessary to avoid such occurrences, and this can only be done by the sanitary officers, to whom the duty is now restored. The mortality in the district was at the rate of 25·2 per 1000, but excluding the influence of hospitals in the district it would be reduced to some 22·0 per 1000. The record of sanitary work performed shows that much attention is given with a view to the removal of conditions injuriously affecting health.

Watford.—One of the principal wants of this district is adequate means for the isolation of infectious cases which shall be in no way connected with the workhouse. The district is apparently free from such diseases now, and action on Dr. Brett's advice should not be postponed, otherwise some imperfect provision may have to be made suddenly during a period of emergency.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns, 5495 births and 3305 deaths were registered during the week ending the 8th inst. The annual death-rate in these towns, which had been equal to 19·1 and 19·9 per 1000 in the two preceding weeks, further rose to 20·0 last week. During the first ten weeks of the current quarter the death-rate in these towns averaged, however, only 20·1 per 1000, against 21·4 and 20·6 in the corresponding periods of 1881 and 1882. The lowest rates in these towns last week were 14·0 in Oldham and Derby, 16·6 in London, and 17·4 in Cardiff. The rates ranged upwards in the other towns to 28·0 in Manchester and Sunderland, 28·5 in Bolton, 28·6 in Preston, and 30·5 in Brighton. The deaths referred to the principal zymotic diseases in the twenty-eight towns further rose last week to 763; they included 463 from diarrhœa, 96 from scarlet fever, 76 from "fever" (principally enteric), 51 from whooping-cough, 43 from measles, 17 from diphtheria, and 17 from small-pox. The lowest death-rates from these zymotic diseases were recorded last week in Oldham and Halifax, and the highest in Preston and Brighton. The deaths attributed to diarrhœa in the twenty-eight towns showed a further increase of 56 upon the numbers in the two previous weeks, the disease being nearly four times as fatal in the provincial towns as in London. The highest death-rates from this disease occurred last week in Leicester, Salford, Brighton, and Preston. Scarlet fever showed the largest proportional fatality in Blackburn and Leeds; measles in Brighton and Newcastle-upon-Tyne; whooping-cough in Brighton; and "fever" in Cardiff. No fewer than 14 of the 17 deaths from diphtheria in the twenty-eight towns occurred in London. Small-pox caused 12 deaths in Birmingham, 3 in Sunderland, and 1 both in London and in Hull. The number of small-pox patients in the metropolitan asylum hospitals, which had been 52 and 57 on the two preceding Saturdays, further rose to 60 at the end of last week. The Highgate Small-pox Hospital contained 4 patients on Saturday last, no new case having been admitted during the week. The deaths referred to diseases of the respiratory organs in London, which had been 160 and 148 in the two preceding weeks, rose again to 156 last week, but were 6 below the corrected weekly average. The causes of 80, or 2·4 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Brighton, Portsmouth, Nottingham, Plymouth, and Derby. The proportions of uncertified deaths were largest in Norwich, Wolverhampton, Halifax, and Huddersfield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been equal to 21·1 and 22·1 per 1000 in the two preceding weeks, declined to 19·5 in the week ending the 8th inst.; this rate was 0·5 below the mean rate during the week in the twenty-eight English towns. The rates in the Scotch towns ranged from 11·9 and 15·4 in Perth and Paisley, to 23·2 and 23·3 in Leith and Glasgow. The deaths in the eight towns included 92 which were referred to the principal zymotic diseases, showing a decline of 9 from number in the previous week; 33 resulted from diarrhœa, 15 from whooping-cough, 14 from diphtheria, 12 from measles, 11 from "fever," 7 from scarlet fever, and not one from small-pox. These 91 deaths were equal to an annual rate of 3·8 per 1000, which was 0·8 below the rate from the same diseases in the large English towns. The highest death-rates from these diseases in the Scotch towns occurred last week in Leith, Edinburgh, and Glasgow. The 33 deaths attributed to diarrhœa showed a further decline from recent weekly numbers, and were 23 below the number in the corresponding week of last year. The 15 fatal cases of whooping-cough included 10 in Glasgow and 3 in Aberdeen; and of the 14 deaths from diphtheria, 5 occurred in Glasgow, 3 in Aberdeen, and 2 both in Edinburgh and Paisley. Of the 12 deaths from measles 6 were returned in Edinburgh and 5 in Glasgow. Five of the 7 deaths from scarlet fever and 8 of the 11 deaths from "fever" also occurred in Glasgow. The 64 deaths referred to acute diseases of the respiratory organs in the eight towns showed an increase of 5 upon the number in the previous week, and exceeded those returned in the corresponding week of last year by 3. The causes of 72, or more than 15 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 21·2 and 23·4 per 1000 in the two previous weeks, further rose to 24·5 in the week ending the 8th inst. The mean death-rate in the city during the first ten weeks of the current quarter was equal to 22·0 per 1000, against 19·5 in London and 17·2 in Edinburgh. The 164 deaths in Dublin last week showed a further increase of 7 upon the numbers in the two previous weeks; they included 12 which were referred to diarrhœa, 3 to whooping-cough, 2 to "fever," 2 to scarlet fever, and not one either to small-pox, measles, or diphtheria. Thus 19 deaths resulted from these principal zymotic diseases, against 20 and 31 in the two previous weeks; they were equal to an annual rate of 2·8 per 1000, against 2·9 and 4·0 from the same diseases in London and Edinburgh. The 12 deaths attributed to diarrhœa showed a decline of 3 from the number in the previous week, and the fatal cases of whooping-cough, "fever," and scarlet fever were also less numerous. The deaths of infants, however, showed a further increase upon recent weekly numbers, and were more numerous than in any previous week since the end of March. Four deaths were referred to violence, and the causes of 38, or more than 23 per cent., of the deaths registered during the week were not certified.

JAMAICA MORTALITY STATISTICS.

We are in receipt of the Fourth Annual Report of the Registrar-General of Jamaica, relating to the twelve months ending September 30th, 1882, and once more have to express our regret that these reports should not relate to the natural years ending December 31st. This defect entirely destroys the value of the report for comparative purposes. The main features of the report are satisfactory as affording evidence of improving sanitary condition. The population of the island in 1881 appears to have been 580,804 persons, and whereas the birth-rate showed but slight variation, the death-rate declined from 26·0 in 1880-81, to 20·0 in 1881-82. The excess of births over deaths was 8875 in the year ending September, 1882, against but 6215 in the preceding year. The most unsatisfactory features in the report are the large proportion of illegitimate births, which were equal to 58·2 per cent. of the total births recorded, and the high rate of infant mortality. Of the 11,874 deaths 2932, or nearly 25 per cent., were of infants under one year of age, and 1626, or nearly 14 per cent., of children aged one year and under five years. Bearing in mind, however, the large proportion of illegitimacy, it is matter for astonishment that the proportion of infant mortality is not still higher than it appears to be. Measured by the proportion of deaths under one year of age to births registered, infant mortalilty did not exceed 141 per 1000. It appears that 31·8 per cent. of the deaths in 1881-82 resulted from zymotic diseases, of which 686 resulted from diarrhœa and dysentery. No fatal case of small-pox, and only 4 of yellow fever, were registered; indeed, excepting the fatality from diarrhœal diseases Jamaica seems

to have been remarkably free from epidemic fatality in 1881-82. The Registrar-General of the island notes with regret that so few of the causes of death are certified by qualified practitioners; indeed, it is stated that in 84 out of each 100 deaths reliable information as to the cause of death was altogether wanting.

THE SERVICES.

The Queen has been pleased to give and grant unto Surgeon-Major Francis Bramley Baker, Grenadier Guards, late senior medical officer of the brigade of Guards in Egypt, Her Majesty's Royal licence and permission that he may accept and wear the insignia of the Third Class of the Order of the Medjidieh, which His Highness the Khedive of Egypt has been pleased to confer upon him in recognition of his services during the recent operations in that country.

ARMY MEDICAL DEPARTMENT.—Surgeon-Major John Trehane May Symons, to be Brigade-Surgeon, vice J. Wiles, granted retired pay.

RIFLE VOLUNTEERS.—1st Lancashire: James Bruce Macpherson, gent., to be Acting Surgeon.—4th Lancashire: Acting Surgeon John Brooke Unwin resigns his appointment.

INDIAN ARMY.—The Queen has approved of the resignation of the undermentioned officers:—Brigade Surgeon Henry King, of the Madras Army; Surgeon Herbert Tyrrell Griffiths, of the Bengal Army; Surgeon Arthur George Warburton, of the Bengal Army.

ADMIRALTY.—The following appointments have been made:—Staff Surgeon Joseph Wood, M.D., to the *Cleopatra;* Staff Surgeon John C. B. Maclean, M.B., to the *Champion;* Staff Surgeon Alexander R. Joyce, to the *Daring;* Surgeon William M. Lory, to the *Zephyr;* Surgeon John Brunt, to *Boscawen*, vice Newland; Surgeon Charles F. Newland, to the *Midge;* Surgeon William G. C. Smith, M.B., to the *Cleopatra.*

Correspondence.

"Audi alteram partem."

FEIGNED SKIN DISEASES.

To the Editor of THE LANCET.

SIR,—As cases of feigned skin disease such as have been recently described by Mr. Colcott Fox, in THE LANCET of Dec. 30th, 1882, and by Mr. J. B. Footner, in the same journal for Aug. 25th, 1883, are by no means common, I venture to send you the notes of a case now under observation at the Westminster Hospital.

Isabella H——, a girl of fourteen, was admitted on Aug. 29th for what was described as a skin eruption. From the history as obtained from her father and an elder sister, it appears that she has been subject to fits since she was seven years old. What may have been the exact nature of the fits is not quite clear, but we are told that they occurred with the greatest irregularity, the patient sometimes having five or six in a day, and at others being free from them for a fortnight or more. The attacks usually came on suddenly, but the patient had some kind of warning, "a feeling that they were coming on," so that she was always able to reach a place of safety, and never injured herself in any way. The warning was brief, but still if they attacked her in the street, as they did sometimes, she had time to run into a shop or neighbouring house and ask permission to sit down. The patient is described as being "convulsed" in the fit, but she did not foam at the mouth and did not bite her tongue. There was some difference of opinion as to whether she entirely lost her senses, she herself maintained that she knew everything that was going on around her and heard every word that was spoken, but her statement was generally discredited, and her sister, who was with her more frequently than anyone, said that that was a delusion and that she was for a time completely insensible. In proof of this statement she mentioned that the fits often came on in the night when they were in bed together, and that in the morning she had forgotten all about them. The attacks were generally attended with a certain amount of excitement, laughing and crying, and were not followed by drowsiness, although the patient seemed worn out and was glad to lie down for a time. About three years ago she had a very bad fit, which lasted forty-eight hours, and this was followed by paralysis of the left side—both arm and leg—which persisted a fortnight and then got well without treatment. At this time there was some affection of speech "a difficulty in finding her words," but this, too, soon passed away. At other times there was no loss of voice, and there were none of the ordinary symptoms of hysteria. She went to school and was quick in learning, but "the fits were always more frequent when she had anything to do." There had been no appearance of the catamenia. The family history was good, and the eldest sister, aged twenty-one, enjoyed excellent health. The spots were noticed for the first time towards the end of last year, and they came out soon after a fit. They were on the arms and legs, but not on the face, and not on the chest or back. They did not all come out together, but one or two at a time, and they always came out during the night. They looked like a blister or a burn and took a long time to heal, a month or more. No more spots came out until ten days ago or it might be a fortnight, when the present crop appeared, again not all at once, but two or three at a time. They were like blisters at first, "bladdery heads full of water," and then they burst and left sores. On examination it was found that the patient was well nourished, and it was noticed that she had an easy contented appearance, as if she were well satisfied with herself and her surroundings. She was anæmic, and had large dark languid eyes, of which she made good use. On the outer side of the right forearm, about the junction of the lower third with the upper two-thirds, were two elongated spots, looking exactly like a nearly healed blister. They were oval in shape, the long axis corresponding with the length of the arm. Each spot was about an inch and a quarter long and half an inch in breadth. There were no other spots on that arm, but on the left forearm were two places corresponding in size and position with those already noticed. On the right leg was a spot on the front of the tibia, again of the same character except that it was bifid at the lower edge, and there were one or two on the left leg. Two well-marked patches were seen in the intermammary region, diverging, with the long axis directed downwards and outwards. There was also a patch on each cheek, and that was all. In addition to the spots there were markings or discolourations—they might be called superficial scars—on other parts of the body, indicating the position of the patches which had appeared in the former attack. It was noticed that nearly all the markings were oval, but there were one or two fairly circular, smaller than the others and about the size of a sixpence. There were no spots or markings of any kind on the posterior aspect of the legs, and there were none on the back or abdomen. The patient complained of being "very tender," and said it was due to the spots. There were no patches of anæsthesia, and there was apparently no pain on pressure over the ovaries. Very little doubt was entertained that it was a case of feigned disease, at all events as regards the skin affection. Mr. Colcott Fox, the physician to the skin department, was asked to see her, and expressed a decided opinion that the patches were produced artificially, probably by rubbing with the fingers or scratching with the nails. The patient was at once taxed with the imposition, but she denied it—not vehemently, but quietly, and in a way which made it difficult to press the point. Such is the history of the case, and there is very little more to say about it. There was no affection of the special senses. The urine was not of unusually low specific gravity and was free from albumen and sugar. The patient is still under observation and is being carefully watched; but it is not at all clear that watching will throw much light on the subject. The patches are produced without chemicals or apparatus of any kind—in fact, the whole thing is done so simply that it is hardly likely she will be detected in the act of producing them. What her object can be in putting herself and others to so much inconvenience it is difficult to say; possibly the wish to avoid work; more probably the desire to attain that transient interest and notoriety which, in a hospital, always attaches to a "good case." That any drug taken internally could have produced these spots is not to be supposed for one moment; but it is worth mentioning incidentally that the rhus toxicodendron, and probably some other species of sumach, if

applied locally would produce somewhat similar sores. Such a mode of origin is, of course, quite out of the question in this particular case.

I am, Sir, yours obediently,

Weymouth-street, W., Sept. 1883. WM. MURRELL, M.D.

TETANY.

To the Editor of THE LANCET.

SIR,—In THE LANCET of July 21st Dr. Gowers of London publishes an instructive and interesting lecture on the uncommon affection tetany, and cites a case which came under his care. I would beg to record in these columns a singular one which came under my observation in 1877. The patient was a European, aged thirty-five, by occupation a railway guard. The history, briefly, was that about twenty years ago he was subject to what he called "fits." These were described more like syncope than epileptiform seizures. That six years before he came under my care he had contracted chancre; the sores were said to be multiple, with a suppurating bubo in each groin. These latter had to be lanced. So far as he was aware, he did not notice any rash to follow, but gave a rather vague account of sore-throat, from which, it appeared, he suffered on divers occasions, but he could not state for certain that this was not the result of ordinary cold. He had come to be treated for his right hand and right foot, which were contracted and greatly distorted. He was not able to open the former without the aid of the other hand, or to grasp any object with it; when, however, the hand was forcibly opened out, which could be done, and the patient could do this to a certain extent himself with his other hand, it instantly re-contracted into its previous form directly the extraneous aid was withdrawn. Besides this, the wrist was slightly bent on the forearm. As regards the latter, it may be said, in short, that the appearance was not unlike that of talipes varus; the great toe of that foot was contracted to a marked degree, and he was not able to rest the sole of the affected foot flat on the ground. On letting the weight of the body rest on the affected lower extremity, he felt a sensation as though a cord were tightly tied round the knee-joint. This muscular contraction, which was confined to the flexor muscles, was permanent, by which it is meant that it was not intermittent, but was always present, and it was of about a year's duration.

As regards the causation, it occurred to me at the time that sexual excesses may possibly have had a share; I ascertained that sexual power and desire had diminished. But I had fairly good grounds for suspecting syphilis as the more probable exciting cause, and this view was subsequently confirmed, as will be seen. I did not go by the history as given in the chancre alluded to above, which, no doubt, did not appear to have been a Hunterian sore, but I suspected that on a subsequent occasion the patient had contracted syphilis without being aware of the fact. As evidence of this there was present an objective symptom of syphilis, and that was enlargement of the testicle of both sides (the left more so), testicular sensation had disappeared and the glands were elongated in shape. By this symptom I was guided in the treatment; I placed the patient under the influence of mercury (the weather being cold) in combination with iodide of potassium, and in about a fortnight some improvement was noticed, and after about three weeks or a month more it was more marked. With the return of testicular sensation the nervous affection got better, until at length he was quite well under these anti-syphilitic remedies. The question arises, Was this case not due to syphilis? I think it was.

I believe M. Fournier of Paris has recorded some instances of this affection being the result of syphilis. I remember a case myself, when a house-physician to a London hospital many years ago, the patient in this case being a young girl. Dr. Harlingen of Pennsylvania has published (*American Journal of Medical Sciences*, April, 1877) three very interesting cases. In one of these the subject was a young woman, in whom the biceps was so contracted that it seemed so shortened that the arm could not be extended. Recovery took place under anti-syphilitic treatment. In the next case the subject was a middle-aged woman, in whom the leg could not be flexed much beyond a right angle. It was cured in three months by mercury and iodide of potassium. The third case occurred in a healthy married woman about a year after she had contracted syphilis from her husband. The left arm was the seat of the affection, in which the forearm could not be extended. Dr. Harlingen writes that improvement took place under iodide of potassium, but the patient attended irregularly and he lost sight of the case, and was, therefore, not able to record the result. He gives an excellent review of the literature of the subject, which, together with Dr. Abercrombie's graduation thesis on tetany in children, are worthy of a careful study by those who may wish to learn most of what is known of this somewhat obscure and singular affection.

I remain, Sir, yours truly,

Ahmedabad, Aug. 17th, 1883. JOHN C. LUCAS.

OSTLERE'S UTERINE DOUCHE.

To the Editor of THE LANCET.

SIR,—I have read in your journal of the 25th ult., a notice of Ostlere's Uterine Douche, which scarcely does justice, in my opinion, to the class of instruments of which that in question is, I think, the most perfect. It may, indeed, be considered the forceps of the puerperium, if I may be allowed to use an expression indicative of my belief, from experience as well as hearsay, that by its means many a life has been snatched from the jaws of death, and many more sacrificed by its non-employment. Your objection to it is based on two grounds: (1) the danger of injecting fluid into the peritoneal cavity by way of the Fallopian tubes, and (2) the difficulty of cleansing by its means the cervix uteri and vagina. Now, the former is a rare accident, usually observed in cases where there has been an abnormal patency of the tubes—a possible contingency which can scarcely be balanced to its advantage against the very real danger arising from a foul uterine cavity. The latter objection, if you will permit me respectfully to say so, is theoretical rather than practical, as the jet of the douche can be used as a most efficient vaginal irrigator. But while this purpose may be fulfilled by the use of an ordinary syringe, the uterine cavity can only be cleansed by the intra-uterine douche. I trust, Sir, you will pardon this criticism of an opinion which I presume has your editorial sanction; but as the tenour of your notice of the instrument may fatally deter some one or other from washing out the cavity of the uterus for fear of peritoneal infection, &c.—in cases, for example, of sapræmia, where the operation is not only the sheet anchor, but the very life boat of the situation—I have written what I know to be true, in the hope that this most important subject may receive full and fruitful discussion in your columns.

I am, Sir, yours obediently

ALEXANDER MORISON, M.D.

Green Lanes, N., Sept. 12th, 1883.

"LENGTH OF INCISIONS IN OVARIOTOMY."

To the Editor of THE LANCET.

SIR,—Seeing a discussion going on in THE LANCET just now about the length of incisions in abdominal surgery, and having noticed a statement made by the surgical registrar of St. Thomas's Hospital, in which he doubts the probability of any after-inconvenience arising from long incisions, I should like to report a case under my care at present.

Mrs. P——, aged fifty-four, was operated on in July, 1879, for an ovarian tumour. The right ovary was removed after two quarts of sanguineo-purulent fluid had been evacuated. A perfect recovery was rapidly made, the patient returning thirty-five miles to her home within six weeks.

In May, 1882, I was called to see her, in consequence of troublesome constipation. This I found to be in a great measure due to want of power in the abdominal walls; and on examination I made out that the cicatrix in the linea alba had certainly given way; there was then no solution of continuity, but a stretching of the fibres of the cicatricial tissue. Firm support in a great measure overcame this inconvenience, until three weeks since, when I was sent for at night, and in my absence Dr. C Gwynn called, and found Mrs. P—— suffering great pain in the hypogastric region, extending to the right iliac, and through to the back. This pain was due to a rupture of the distended cicatrix and a

consequent large ventral hernia, which, however, was not strangulated, but easily returned.

As I did not operate myself, I cannot state the length of incision, but there now exists a hernial opening into the abdomen, measuring four inches in a direct line, which would be equivalent to an incision of four and a half or five inches through the abdominal walls of a pluripara.

As this is probably not a solitary case of the kind, I think it a very valid reason why all incisions in abdominal surgery should be as small as possible, consistent with the removal of the tumour without bruising the edges of the wound, as it is quite impossible to devise any mechanical means to effectually replace the support given by a natural condition of the abdominal walls. I should mention that the rupture in the case of Mrs. P—— was brought about by her rising from a low chair and reaching above her head with the right hand whilst the left arm and hand were engaged; a distinct tear was heard, followed by immediate pain, sickness, and faintness.

I am, Sir, yours obediently,

Malpas, Aug. 29th, 1883. CHRIS. JORDISON, M.R.C.S., &c.

TRUE BUBONIC PLAGUE IN SOUTH CHINA.

To the Editor of THE LANCET.

SIR,—It may be of some interest to you to know that the epidemic which swept over this district last year, and which you mentioned in your issue of Aug. 26th, 1882, has not returned this year. Up to date there has not been a case. Copious rain fell during March, and was useful in cleansing the town after the dry winter. If what I saw was true plague, I am, I understand, the first medical observer of it in China.

I have recently learned from the Chinese a rather amusing means they adopt to identify the paternity of a child. A basin, or cup, of clean water is obtained; the supposed father's finger is cut, and then put into the water till some blood trickles; then the child's finger is cut and placed in the water, and if the two bloods immediately unite, the proof is complete. The magistrate is sometimes bribed, and the water is tampered with. As a sample of medico-legal law in China it is interesting.

I am, Sir, yours truly,

Pakhoi, China, July 22nd, 1883. J. H. LOWRY.

THREE CASES OF LABURNUM POISONING.

To the Editor of THE LANCET.

SIR,—As the recorded cases of poisoning by the seeds of the laburnum are not very numerous, the following notes of three cases seem worth reporting.

John B——, aged seven, William B——, aged four, and F. T——, aged four, the first two brothers, were brought to the Torbay Hospital on 15th August, about two o'clock P.M. They were discovered by a gentleman lying quite insensible—one on his back and the other two on their faces. To use his own words, had they been men he should have thought them dead drunk. They were put into a cab and brought to the hospital. On admission the eldest was able to walk a little, but his gait was slow and unsteady; he had a dazed apathetic appearance, his face was slightly flushed, pupils somewhat dilated, but not markedly so, pulse rapid and very feeble. The two youngest were almost insensible, both very pale and cold, pulse in each case rapid and feeble, almost imperceptible. The only history then given was that they had been eating some berries. A few hours later another boy, who had been with them, brought up some pods of the laburnum, and stated that they had eaten several of the seeds, he did not know how many. He himself had eaten one of the seeds, but disliking the taste had judiciously abstained from eating any more. He also stated that the other three had been sick a short time after taking the seeds. An emetic of sulphate of zinc was given, but no seeds were vomited. The stomach pump was also used for one of them. They all exhibited a strong tendency to sleep. A hot bath was next given, and a strong mustard poultice applied to the chest and abdomen, and they were put to bed. They fell asleep almost directly, breathing heavily, and it was with great difficulty they could be kept awake. The pupils during sleep became very contracted, but dilated again on waking. The face of the eldest was very flushed, and during sleep became covered with perspiration. This was not observed in the other two. One of the younger had considerable muscular twitchings of the arms during sleep. In each case the temperature was below the normal, being 98·2° in the eldest, and 97·8° and 97·2° in the two younger. Towards evening the pulse in each of them became fuller and more regular, and they all fell into a quiet sleep. Next morning they were all much better. A dose of castor oil was given, which operated during the day. There was still a tendency to sleep in two of them, and in both of these the face was flushed and the temperature slightly above the normal (99·2°). The urine in these two was drawn off. They took their food well, however, and towards evening appeared to have quite got over the effects of the poison. They were discharged next day quite well.

Remarks.—The most marked symptom in each of these cases was the persistent tendency to sleep, strongly resembling in this respect poisoning by opium and other narcotics. The character of the pulse was the same in all, very frequent and feeble. The pupils in each case were somewhat dilated. The temperature was below the normal in all. There was no epigastric pain or purging; all had vomited before admission.

I am, Sir, yours truly,

FRED. T. THISTLE, L.R.C.P. Lond., &c.,

Aug. 18th, 1883. House-Surgeon to the Torbay Hospital, Torquay.

BACILLI IN THE BLOOD OF CHOLERA PATIENTS.

To the Editor of THE LANCET.

SIR,—I was somewhat astonished on reading in several of the last medical and political journals that I had discovered bacilli in the blood of cholera patients. Evidently some mistake has arisen and calls for an explanation, for it is clear that I have been misunderstood. The facts are that before knowing of the projected scientific missions of the German and French Governments to Egypt I proceeded to make researches on the cholera germ, but I failed to find any living bacilli in the blood.

I am, Sir, yours truly,

STEPHEN KARTULIS, M.D. Berl.

Greek Hospital, Alexandria, Sept. 3rd, 1883.

THE CASE OF POLICE-CONSTABLE SANSOM.

To the Editor of THE LANCET.

SIR,—This has been a great trial to me; even now it seems like a horrible dream. Kindly allow me to thank (though I feel how inadequately I can do so) you, Sir, and the many eminent members of the profession—some my esteemed old masters at St. Thomas's Hospital—for the trouble they have taken to sign the petition to the Home Secretary. The sympathy generally shown to me has been very sweet. Life without the respect of the profession to which I have the honour to belong would be worthless.

I am, Sir, yours very sincerely,

Sept. 1883. C. CORBETT BLADES.

THE MEDICAL BILL.

To the Editor of THE LANCET.

SIR,—Your able article on the Government and the Medical Bill in THE LANCET of August 25th must meet with the cordial approval of all those who care for the welfare of the profession. Hundreds of students have been anxiously looking forward to the passing of the Bill, and to the advent of the time when one portal and one examination shall qualify them to practise both medicine and surgery.

At present many a man obtains the diploma of one or other of the corporations, and from pecuniary or other circumstances is unable to get a second to fully qualify him. What is his position? A most anomalous one: he can hold no union or other public appointment; he can rise to no standing in his profession, and is altogether in a most unfortunate plight. How different would have been his position had the one-portal system been in force (true, he would have had more subjects to take up, but that would have been but of little moment when a student at the hospital

and in reading form); he could then have been on equal footing and able to compete on equal terms with the rest of his professional brethren. The Scotch corporations, after having seduced men for many years past to come up for their diplomas, on the understanding (for it was nothing less) that they could be more easily obtained there than elsewhere, are at last taking fright at English opinion, and are now going in for wholesale rejections, hoping by this means to elevate their diplomas in the eyes of the profession.

I was a candidate at the last final examination of the Glasgow Faculty, and out of the seventeen qualified candidates who went up only five were passed; of the twelve rejected, one was an M.D. of the Royal University, another an M.B. of Trinity College, Dublin, and a third a member of the Edinburgh College of Physicians. I trust they will continue their wholesale rejections, when Englishmen will soon see the folly of journeying north for that which can be obtained, of a superior quality and on much fairer terms, at home. I am, Sir, your obedient servant,

Sept. 1st, 1883. ARISTOBULUS.

LIVERPOOL.

(From our own Correspondent.)

FEVER HAUNTS.

AT the last meeting of the Health Committee attention was called to the fact that in thirteen streets which were named fever had prevailed more or less for from eighteen to twenty years. One of the members moved for a return from the medical officer of health and the city engineer, such return showing in detail the cause of fever in each and all streets where there have been cases of infection for the last three years, whether from faulty or unhealthy dwellings, defective drainage, dirt, overcrowding, or other causes. The matter was adjourned. In THE LANCET for 1870, vol. ii., page 893, will be found a most graphic description of the lower parts of Liverpool, in which most probably these streets are included. Dr. Taylor, the medical officer of health, asserts, with much reason, that the dirty and drunken habits of the dwellers in these streets naturally predispose them to fever. But, as THE LANCET commissioner pointed out with equal force, drink is the inevitable consequence of living in such dwellings and amid such surroundings; "alcohol is the only antidote to the compound ethereal essence of nastiness they are compelled to breathe." Though much has been done here in the way of sanitation since 1870, there are still hundreds of dwellings quite unfit for human habitation; and the work incumbent upon municipal authorities, aided by philanthropists, is first to erect suitable dwellings for those who will be displaced, and then to remove all the dwellings which are shown to be the haunts of fever.

OBSCENE QUACKERY.

This city has for years past had a most unenviable notoriety for the shameless impunity with which the advertising quacks have been permitted to distribute their filthy literature in the open streets. Fortunately for its future credit, the Liverpool Improvement Act, 1883, will enable the authorities to deal successfully with this serious evil. Under the 32nd section of this new Act a man has been convicted and fined 10s. and costs for distributing indecent books, and it was stated by the prosecuting solicitor that the magistrate had discretionary power to inflict absolute imprisonment, without the option of a fine. Mr. Raffles, the stipendiary magistrate, expressed his satisfaction that such a law had been passed.

LOCK HOSPITAL.

In the male wards Mr. A. Bernard had recently a patient suffering from tertiary syphilis of some years' standing in whom the greater part of the septum nares was necrosed and thrown off. There were also nodes of the shin and frontal bones. Iodide of potassium, in half-drachm doses, afforded much benefit. Another patient, in the same ward, was admitted a few days since with a papular syphilide of large type, situated on the dorsum of the hands and feet. The eruption is mostly confined to the outer aspects of the extremities, the inner surfaces being almost free from the attack. There has recently been an epidemic of epididymitis in both male wards.

SCOTTISH NOTES.

(From our own Correspondent.)

ABERDEEN ROYAL INFIRMARY.

THE quarterly meeting of this institution, held on Monday, was of more than usual importance, indeed, it was named a red-letter day by the Lord Provost, who presided. It may be remembered that the infirmary has been much hindered of late through lack of funds, and that a special effort was some time ago resolved upon to place matters on a sounder basis. The result has been entirely successful; the £3300 of debt has been more than met; the annual subscription list—still too small—has been increased, and over £3000 has been placed as a nucleus of a special fund for the increase and modernising of the institution. The reorganisation of the infirmary has been estimated to cost £7500, and no doubt is felt with regard to raising the balance. In reference to the donation of £2000 announced some months ago by Mr. Allan's trustees, and to which certain important conditions were attached, it is satisfactory to state that arrangements have been made which place this sum at the disposal of the directors. One condition of some importance has been agreed to by the managers, and henceforth the University Professor of Medicine may be elected physician to the infirmary out of the usual routine, and in the same manner as may now be adopted in favour of the Professor of Surgery. The Provost was very warm in his expression of thanks to the committee, which, headed by Mr. Edmond, had entirely cleared the institution of debt, and left them with a large surplus. He stated that the working classes, hitherto apathetic, were now exerting themselves as they ought to do, and that weekly payments for the infirmary were made in most of the large works. The appointment of a successor to the superintendentship of the infirmary was next proceeded with. The vacancy was caused by the death of Dr. Robertson; the emoluments are £250, with free house, &c., and it was known that the application of others than medical men would be entertained. There were about 17 candidates, mostly medical, but the vote lay between Dr. Collins, of Elgin, and Dr. Walter, of Manchester. The former had 74 votes, the latter seven.

MURTHLY LUNATIC ASYLUM.

The vacancy in the superintendentship of this asylum, occasioned by the resignation of Professor M'Intosh, has now been filled up by the appointment of Dr. Campbell, from the Durham County Asylum at Sedgefield. As I before indicated, the vacancy was not advertised, as Dr. Campbell while acting as interim medical officer during last winter performed his duties in such a manner that the directors were of opinion no more eligible candidate could be found. Dr. M'Intosh has been appointed consulting physician to the institution, so that his valuable services may be to some degree retained.

MR. YOUNG, M.B., INDIAN MEDICAL SERVICE.

The unusual success of this gentleman at the recent Netley examinations, he having carried off the Herbert, Martin, Parkes, and Montefiore medals and prizes, renders the question as to his previous studies and success somewhat interesting. I find that Mr. Young is a graduate in arts and medicine, the last with highest honours, of Glasgow University, that his whole curriculum of study was passed there till after his graduation, when he was a short time at Vienna. In the arts course he was a prizeman in each class, and in the subjects forming the medical curriculum he obtained the premier position no fewer than eleven times. I understand that Mr. Young goes out with the special recommendation of the home authorities to those of India.

THE BRITISH ASSOCIATION AND ABERDEEN.

After two unsuccessful applications by Aberdeen to secure the honour of receiving the British Association, those anxious for the visit have again met and determined upon yet another invitation. After much talk the following resolution was come to: "That this meeting, having considered the letter of the British Association, desires cordially to invite the Association to hold its meeting in 1885 in Aberdeen; but in respect that the claims of Aberdeen have been already fully urged by former deputations, is of opinion that it is unnecessary to send any deputation in support of the invitation." There

are good grounds for believing that the Association is far from indifferent about visiting Aberdeen; and I am sure that were they to do so, the authorities and public alike would most cordially receive the scientists, notwithstanding the stale joke about the Jew.

FIFESHIRE MEDICAL ASSOCIATION.

This society held its second annual meeting on the 7th inst. at Kirkcaldy. The turn-out of members showed that the association has now been accepted generally throughout the county, and may reasonably anticipate a useful existence. Dr. Lumgair of Largo, the President, occupied the chair, and delivered an able address, in which he compared the practice of the present with that of the past, and especially insisted that a distinct change in the type of disease had occurred in recent years, and that had been met by a complete alteration in the modes of treatment. He urged a return to some of these old-fashioned remedies, believing that their discriminating use would be productive of beneficial results. After a hearty vote of thanks to Dr. Lumgair, the meeting proceeded to discuss the methods which might be adopted, with a view to ensuring that patients, especially in the country, should make their calls before 10 A.M., as immense inconvenience is occasioned by the present careless habits of people generally in this particular. A scale of fees was afterwards agreed upon, and the following office-bearers were appointed for the ensuing year:—President, Dr. Archibald; vice-president, Dr. Dow; secretary, Dr. Douglas; treasurer, Dr. Macdonald; and Council, Drs. Lumgair, Moir, and Spence. A dinner followed.

THE SCOTCH PRISONS.

It is satisfactory to note in the annual report of the Prison Commissioners for Scotland, that the number of criminals in confinement continues to decrease, and that the average for the past year has been but 2513, instead of 3052 in the year 1879. The medical visitors are spoken of favourably; and the change introduced in the management of the criminal lunatics at Perth is referred to as follows:—"Early in the year we brought under your consideration the propriety of a radical change being made in the administration of the department, by assimilating the management to that now followed in all well-regulated asylums. The superintendent in charge of the department under the governor and surgeon had originally the training of an ordinary asylum attendant. And so long as the number of inmates was few the arrangement worked well. But now, since the department has been largely extended, we were of opinion that the professional skill and ability of the medical officer should be more largely taken advantage of, and that under the governor, as head of the whole establishment, he should be the medical superintendent of the department for the insane. In this opinion we were supported by Her Majesty's Commissioners in Lunacy; and you were pleased to appoint Dr. McNaughtan to this office. One pleasing and satisfactory evidence of the benefit arising from the change is that although the greater part of the inmates have before their admission committed acts of violence, there has only been one patient during the last year placed under mechanical restraint, and that only for a short period. In former years mechanical restraints were largely used, and they were often the subject of remark in the periodical reports of Her Majesty's Commissioners in Lunacy as exceptional treatment of the insane." This official commendation of Dr. McNaughtan's work will be welcomed by those who, like him, are fully satisfied with the advantages of non-restraint. If the principle can be so well applied among lunatics of this class, to what extent may it not be carried in ordinary asylums? There were three suicides in the Scotch prisons during the past year.

IRELAND.

(From our own Correspondent.)

ASIATIC CHOLERA.

DR. CAMERON, medical officer of health for Dublin, has published a paper, which has been circulated by order of the Public Health Committee, on Asiatic Cholera, and its invasions of Europe. With regard to its contagious properties Dr. Cameron takes the usual view—viz., that it is not, as a rule, directly contagious in the same way that small-pox or scarlatina is, but that it is propagated from person to person in the same indirect manner that typhoid fever is communicated.

LONDONDERRY CITY AND COUNTY INFIRMARY.

A good deal of clamour has of late been raised against the County Infirmaries in Ireland, and in several instances the presentments for their maintenance have been refused, and great injury done to very deserving institutions. The annual report of the Londonderry Infirmary for the past year speaks well for the care and skill with which the surgeon, Sir William Miller, treated the various patients who came under his care, and the low mortality which occurred when the serious nature of some of the cases is considered. To give examples, of seventy-five amputations and operations all were successful; and of sixty-four fractures the result in all cases was satisfactory. The year closed with a slight increase of expenditure over income.

BELFAST ROYAL HOSPITAL.

At the present time this institution is in debt to the amount of some £1200, and this condition of affairs impedes very much its usefulness. The working classes, who participate most in the benefits of the charity, are, it is gratifying to state, contributing to a great extent to its funds, and the deputations which called on the employers of large firms in Belfast, in order to lay the claims of the institution before their *employés*, have in this way materially increased the income of the hospital. Hospital Sunday has not been so successful as in other places, and it has lately been suggested that a Hospital Saturday movement might be of advantage.

POISONING AT NEW ROSS.

Numerous cases of poisoning from some irritant substance have recently taken place at New Ross, in the county Wexford, and two deaths have already occurred, and about forty more have been seriously indisposed. It appears that in the latter part of August an animal affected with dry murrain was slaughtered, salted, and given to some labourers in the employment of a Mr. Leigh. In a few days Dr. Cardiff, dispensary medical officer, attended twenty-eight labourers who were suffering from vomiting and purging, one of whom died, all those attended having eaten of the meat in question. Many additional cases occurred the following two days, and shortly afterwards another death took place. A post-mortem examination in one of the cases showed the liver and kidneys to be healthy, while the stomach was congested. An inquest has been held and adjourned, in order that the stomach and samples of the meat, salt, and beer used may be analysed by Dr. Cameron of Dublin. It seems that Mr. Leigh had incurred the animosity of the Land League, and was boycotted, while the labourers he had engaged received notice not to work for him. The prevailing opinion appears to be that poison was placed in the food and drink that were sent to Mr. Leigh's house. No more deaths have taken place, and those affected are recovering.

SOUTH DUBLIN UNION.

Dr. MacCabe, Local Government Board Inspector, in his recent half-yearly report of this workhouse, states that its sanitary condition has on the whole been satisfactory. The total number relieved amounted to 5299, and the daily average under medical treatment as sick in hospital, aged, and lunatics was about 2000. The deaths came to 559, a number somewhat above the average. The mortality amongst the children born in the workhouse still continues high, twelve deaths having taken place of the thirty-nine children born within the past six months. When the guardians are in a position to remove the school children, Dr. MacCabe suggests that it would be judicious to change the infants from their present quarters.

The Local Government Board have sanctioned a loan of £5000 for the purpose of erecting in the neighbourhood of the Swivel-bridge, Dublin, public baths and washhouses, a laundry for the washing of infected clothing, and a disinfecting chamber.

The Public Health Committee of the Corporation of Dublin have adopted a recommendation of Dr. Cameron to the effect that St. Kevin's burial-ground should be closed, and have requested the Local Government Board to hold an inquiry into the matter.

At the next meeting of the National Orthopædic and Children's Hospital, Dublin, the name of Mr. William

Stokes, Senior Surgeon to the Richmond Hospital, will be proposed to be added to the list of consulting surgeons to the hospital.

The vacancy in the coronership for the Southern Division of the county Kildare, occasioned by the death of Dr. Carter of Kilcullen, has been filled by the appointment of Dr. O'Neill of Athy.

PARIS.

(From our Paris Correspondent.)

CREMATION.

IN response to the objections that were raised by Dr. Brouardel against cremation, and which were reported in my letter in THE LANCET of the 1st inst., M. Kœchlin-Schwartz, President of the Société de Crémation, of Paris, made a statement to the Prefect of Police to the effect that the mineral poisons could always be detected in the ashes of the body cremated. The vegetable or organic poisons will certainly not be discoverable, as they would be destroyed by incineration; but the same would apply to inhumed bodies when once decomposition sets in. Moreover, even when these substances are discovered in a corpse, it cannot be positively concluded that there was poisoning, as the process of putrefaction has the effect of producing certain alkaloids which are known to be essentially toxic. As for the second objection—viz., the risks attending the manipulations necessitated by cremation, M. Kœchlin-Schwartz observes that these may be obviated by introducing the coffin with its contents into the oven without any further interference with the body than is required when it is lowered into a grave.

THE CONTAGIOUSNESS OF PHTHISIS.

That pulmonary phthisis is a contagious malady, that it is also parasitic and inoculable, as shown by Villemin, Chauveau, and Koch, seems now to be pretty generally accepted in the profession; but Professor Bouchardat, while, with his authority and experience, he accords the above properties, does not consider the disease in question to be contagious in the ordinary sense of the term; that it is contagious to a very limited extent, and only under very special circumstances, the contagium being rarely communicated but by inoculation and ingestion of tuberculous matter. In support of his thesis Professor Bouchardat, in a paper read by him at the Academy of Medicine last week on the genesis of the bacillus of tuberculosis, stated that the medical students, nurses, and the other attendants, who have the care of the phthisical patients in the hospitals, are not more frequently affected by the disease than other persons of the same age, which fact would rather militate against the theory of contagion. Another example quoted by the learned professor was that when a young man contracts pulmonary phthisis in Paris and goes back to his native village, the disease is not necessarily propagated by this circumstance, and statistics have shown that the attendants in the military hospitals have become tuberculous less frequently than the soldiers. In fact, added the speaker, the parasite does not enter the body from without, but it is generated in the organism itself, and results from the continuation of that condition to which the term "misère physiologique" has been so aptly applied by him. In this condition the respiration is rendered less active, and the nutritive interchanges in the economy are imperfectly performed. The consequence is the circulation slackens in the capillaries, the blood coagulates, the red corpuscles are dissolved, and their hæmoglobin stains more or less the coagulum in which the fibre passes to the granular state, as established by MM. Cornil and Ranvier. The lymphatic cells or other normal "organites" are arrested in the capillaries, where they become transformed and acquire new properties. In this struggle for life with the different organisms of the blood and of the tissues, the individual power of these cells is increased. These latter constitute the parasites discovered by Koch, and which were produced by the transformation of "organites" whose conditions of existence had changed. The therapeutic and prophylactic consequences to be deduced from this fact are that the parasite should not be attacked from without, but measures should be taken to prevent its being produced within the body. To fulfil this indication it is necessary to remedy the low physiological condition of the system, and to render the respiration more powerful and the circulation more active.

M. Jules Guérin declared that the communication of Professor Bouchardat was of immense importance, and that he quite agreed with the ideas promulgated by his learned colleague. In support of his opinion that pulmonary phthisis was not directly contagious, M. Jules Guérin cited the case of the attendants attached to the hospital for phthisical patients in London, who do not become more frequently tuberculous than other individuals. M. Guérin, however, whilst admitting the transmissibility of pulmonary phthisis, explains this property in another way. He described two phases of phthisis, the shut tuberculosis (tuberculose fermée) or non-contagious, and open tuberculosis (tuberculose ouverte), constituted by cavities in which sojourn putrid matters, real poisons capable of contaminating those who approach the patient. This M. Guérin considers is an example not of true contagion, but of infection. M. Guérin had already been engaged in drawing up a report for the Academy on the subject of tuberculosis, and further discussion was in consequence put off until the completion of that report.

Paris, Sept. 11th, 1883.

CHOLERA IN EGYPT.

(From our Special Correspondent.)

THE daily mortality from cholera in Egypt has rapidly decreased during the past week, the total officially reported numbering about 3000, as compared with 5000 during the previous seven days. As a natural consequence of this improvement, as men's minds are withdrawn to some extent from the horrors of the present, inquiry and speculation are now going on with regard to the cause or origin of the whole epidemic. Of course, opinions are divided. Some appear anxious to saddle England with all the trouble of the past two months, and assert that laxity in carrying out quarantine regulations in vessels coming from the East is sufficient to account for the invasion of these shores by cholera. It seems as if the wish were father to the thought; for Mustapha Halifa, who at one time promised to become illustrious as the medium of propagation from Bombay to Damietta, has now been relegated to obscurity because he arrived some days too late; those who love quarantine and hate England fall back on the assumption that cholera always comes from India, and though the links in the chain of communication cannot be discovered, they are perfectly willing to assume their presence. The absence of one particle of evidence or of a single fact in support of their theory does not trouble them much, so long as they can lean upon a convenient induction. Those, on the other hand, who believe in the old apostolic injunction—"prove all things"—have met with many facts in support of the view that the disease originated from local causes. Dr. Dutrieux, who has carefully inspected the districts where the cholera first appeared, has ascertained that for some months previously there had been a great deal of enteric fever, and also isolated deaths from a choleraic disease; while Dr. Jerrari reports that at Damietta, for some time before cholera appeared epidemically, sporadic cases had been seen. Further, I hear reports from several quarters, and from trustworthy sources, of cases of petechial typhus having occurred before and during the present epidemic; and whisperings of the existence of plague have also reached my ears. That these reports are not untrue or fanciful the following notes of a case that came under my own observation will tend to prove. It was that of a young Egyptian gardener admitted to the Deaconesses' Hospital, under the charge of Dr. Varenhorst. I did not see the man during life, but was present at the post-mortm inspection of his body. It was covered all over with purplish, almost black, petechiæ, some the size of a millet seed, but many, especially those on the face, being larger than a split-pea. The glands of the groin were hard and enlarged, resembling the indolent syphilitic bubo, showing no tendency to suppuration. On the outside of the left thigh, also in the lumbar and in the dorsal region of the back, there were three black gangrenous-looking masses under the skin of an oval shape, the long diameter of each being about two inches. The skin over them was raised and semi-detached, and they at first sight resembled carbuncles in a state of

gangrene. On manipulation they were felt to be friable masses, and really appeared to be bullæ containing black clotted blood. The following are brief notes of the case during life:—The man was admitted to hospital suffering from a small fistula in ano. He was operated on, and went on perfectly well for a week. At the end of that period the wound began to look unhealthy and gangrenous, and the man was attacked with fever. Then the three hæmorrhagic bullæ appeared; for a week the temperature averaged 102·5° in the morning and 103° in the evening. Then the dark petechiæ appeared without any other rash being observed. The man got worse; for the next seven days his temperature averaged 103·5° in the morning and 104° in the evening, till the night before death (August 13th), when it reached 105°.

Now, what conclusion may be drawn from such cases? What was the forerunner of the diseases, and under what common conditions do they arise? Typhus in Egypt is exceedingly rare, but cases reported from authentic sources establish the fact that some disease very like virulent typhus has existed for some months, and still exists in the country. Now, typhus arises, it is well known, among a population living in dirty, crowded, and badly ventilated dwellings. Whether or not typhus can arise *de novo* in a district I shall not inquire. The same may be said as to the origin of cholera. In India its home is among the badly fed, badly housed inhabitants of filthy undrained districts. In Egypt, especially in the district where cholera first appeared, every bad condition and combination of bad conditions, so often described and so revolting even in the description, existed for months previous to the epidemic appearance of cholera.

Typhus and cholera are allied as far as the circumstances under which they arise are concerned. Cholera and enteric fever are similar in many ways, the one ending in and fusing with the other. All these three diseases have been going on in Egypt for the last few months, and yet none of the three is very common in the country. Some common surroundings and conditions must have favoured their development; and the strong presumption, therefore, is that the cholera wherewith we have this year been visited is due to local causes—causes that are removable by attention, not to quarantine, but to the establishment of some attempt at attendance to cleanliness and sanitation. Such are the opinions of all the most impartial and intelligent medical men here. I believe Dr. Mackie has forwarded to Earl Granville a report of a similar tenour.

The daily mortality in Alexandria is not great compared with Cairo and many other places; fifty is the highest number per diem yet reached; but the daily death-rate from cholera does not seem to decrease rapidly or even steadily, but seems to average about forty. In the last seven days 288 have succumbed to it here. I have seen several cases where the symptoms of vomiting, purging, &c., were very mild; but the suppression of urine was not amenable to treatment, but lasted four or five days and killed the patient. From what I have seen I should say that the proportion of deaths to attacks is about 50 per cent.

Alexandria, August 21st, 1883.

Obituary.

HENRY J. H. BOND, M.D.

BY the death, on Monday week, of Dr. Henry John Hayles Bond, formerly Regius Professor of Physic in the University of Cambridge, at the age of eighty-two, the profession has lost one of its oldest and most respected members, one who was the associate and fellow-student of Hope and Watson, and who, like them, upheld in the highest degree the honour and dignity of medicine, and was eminently practical in the investigation and treatment of disease. He was a most upright, conscientious, straightforward man, painstaking, and of fine gentlemanly feeling. This latter was carried to the point of restraining him from anything like excessive politeness—from anything, indeed, which might even seem to ingratiate himself in the least degree unduly with patients and their friends, on the one hand, or with the medical men whom he might meet in consultation, on the other. Thus he occasionally gave offence to those who did not know him well; but though he avoided the ways of a courtier, and was sometimes a little abrupt in his manner, he was truly sincere, considerate, and kindhearted. All ostentation and self-adulation he utterly abhorred; made straight for the patient and the malady, with little attention to surroundings; gave his opinion concisely, and escaped from the house as soon as he could. In the hospital he was diligent, careful, punctual, kind to patients and pupils, an excellent observer, decided in treatment, and an admirable teacher, without any laboured efforts or show in teaching. There were no needless questions, no superfluous remarks. The wise saws of which he was full must be caught as they fell, and though the careless student might catch but few of these, the attentive pupil could learn few better lessons than those afforded by the daily morning round with Dr. Bond. His professorial lectures were prepared with the greatest care, and gave an admirable epitome of the pathological science of his time as deduced from the best English and continental authorities and his own experience. Shy, retiring, and unobtrusive, almost to timidity, he published but little—only a short account of cases in the hospital and a syllabus of his lectures; yet he was a good writer and a good scholar, possessed considerable artistic power, was fond of science, and fonder still of literature and philosophy. He rarely went into society, but would talk freely in private, and his wide knowledge, stores of anecdotes, and sense of humour, rendered him a most agreeable companion. He disliked all ceremonial, and rarely presented himself on public occasions, scarcely even so much as became his university position. Though he for some years enjoyed an extensive and lucrative private practice, it was not much to his taste; and when he parted from it, he did so without a sigh, and certainly without a shadow of jealousy towards those who succeeded him in it.

Dr. Bond was born in 1801, graduated as Bachelor of Medicine at Corpus Christi College, Cambridge, in 1825, and proceeded to the degree of Doctor of Medicine in 1831. He then settled in Cambridge and practised as a physician, acting as physician to Addenbrooke's Hospital for many years, and being appointed consulting physician on his retirement. In 1831 he succeeded Dr. Haviland in the Regius Professorship of Physic, the appointment to which is made by the Crown. This office he resigned in 1872, and was succeeded by Dr. Paget, the present professor. His professoriate may be noted as the epoch in which the medical school of Cambridge entered upon its career of activity and success, to which he contributed by his good teaching and his high character. From 1858 to 1863 he represented the University on the General Medical Council, but took no active part in its proceedings. He accepted the position as a duty appertaining to his university status, did not much relish the work, and declined to be re-elected. After renouncing his professorship and practice, he devoted himself, in the retirement and quiet which he loved, to literature and to metaphysical and theological study. He had a large family, to whom he was tenderly attached, and was a member of a very long-lived family. His death was accelerated by a fall in June, 1882, when he broke the neck of his thigh-bone, and, though the fracture quickly and firmly united, from the time of the accident he was nearly confined to his room, and latterly kept his bed.

WILLIAM HIGHMORE, M.D., M.R.C.S., &c.

DR. WILLIAM HIGHMORE died on the 28th ultimo, at Sherborne, Dorset. The immediate cause of his death was the rupture of a bloodvessel in the abdomen, which occurred whilst he was dressing. His health had been much impaired by a paralytic seizure in July, 1880, and he had only been under active medical treatment for the three days preceding his death. The deceased gentleman, who was an M.D. of the University of St. Andrews, was born on Jan. 25th, 1816, and was educated at Sherborne School and St. George's Hospital, where he became dresser to Mr. Keate, the senior surgeon, and also an intimate friend of Sir Benjamin Brodie. He gained prizes and distinction in several branches of learning at the termination of his studies in the session of 1837-8. He commenced his professional career as house-surgeon to the Liverpool Northern Hospital in 1838, but soon afterwards entered into partnership with his uncle, the late Mr. Nathaniel Highmore (who died in 1866), and was

from that time in active practice at Sherborne. He was the senior medical officer of the Yeatman Hospital for ten years from its opening in 1866, and subsequently upon his resignation was appointed consulting medical officer. He was also for thirty-five years a governor of Sherborne School and a master of the Almshouse, and held other public appointments.

It is an interesting fact that the late Dr. Highmore was a descendant of Dr. Nathaniel Highmore, the celebrated anatomist, formerly Fellow of Trinity College, Oxford, who also practised in Sherborne, and whose work on Anatomy was inscribed from that town on Dec. 4th, 1650.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on August 30th and September 6th :—

Davies, Henry Havelock, Snainton, Yorkshire.
Dodd, Arthur Herbert, Canonbury.
Fisher, Walter Muiren, Angel-road, Hammersmith.
Gent, George Sidney, Chalcot-crescent, Regent's-park.
Hadley, Wilfred Jas., Clapham-common.
Hart, Arthur Herbert, The Hall, Harborne, Staffordshire.
Humphreys, Chas. Evan, Llanfair, near Welshpool.
Linnell, Edward, Falmouth-road.
Praeger, Emil Arnold, Walsworth-road, Hitchin.
Turnbull, William, Gosforth, Newcastle-on-Tyne.

The following gentlemen also on the same days passed the Primary Professional Examination :—

Cecil Danforth Greenwood, King's College Hospital; Jno. Ferdinand Hugh Tsaffe, Mercer's Hospital, Dublin.

DR. WILLIAM GOODFELLOW LAIDLAW, of Birkenhead, died suddenly on the 8th inst. He had attended to his professional duties on the day previous, and appeared to be in his usual health.

A BOATING accident occurred last week on the Humber, by which Mr. H. F. Nicholson, second son of Mr. R. H. B. Nicholson, surgeon, unfortunately lost his life His brother, who accompanied him, clung to the boat, and was rescued in an exhausted condition.

THE examination for certificates in Sanitary Science by the University of Cambridge will begin on Tuesday, October 2nd. The names of candidates, who must be on the Medical Register of the United Kingdom, should be sent to Professor Liveing, Cambridge, on or before September 28th.

SIR CHARLES DILKE last week paid a visit of inspection to the Westminster Workhouse, in company with Dr. Bridges, one of the inspectors of the Local Government Board. This was the first of a series of visits which it is proposed to make to the workhouses of the metropolis.

THE ceremony of publicly opening the Maidstone Infectious Hospital, an institution erected on the western outskirts of the town, was performed by the Mayor, in the presence of a large concourse of the principal inhabitants, on the 12th inst.

COMPLAINTS are being publicly made that the Bridge Union buildings at Canterbury, with the exception of the casual wards and stables, are totally unfit for use. It is said that the infirmary is low, narrow, and stuffy, and ought to have been condemned years ago.

AT the half-yearly meeting of the governors of the Wolverhampton and Staffordshire Hospital on the 11th inst., it was announced that Mr. J. E. Briscoe, a member of the weekly board, had given the sum of £1000 for the establishment of a home for the accommodation of nurses connected with the hospital staff.

AT a half-yearly meeting of the Governors of the South Staffordshire General Hospital on the 11th inst. at Wolverhampton, Mr. W. H. Jones, on behalf of the corporation of that borough, pressed for a continuation of the existing agreement, which terminates at the end of the present month, by which small-pox cases from the town are admitted to the special small-pox ward in the basement of the institution. The extension was refused; and the Chairman said he regretted the reluctance of the Town Council to grant the extra £750 asked for by the Sanitary Committee, which was required for the drainage and fencing of the proposed infectious diseases hospital.

A POOR-LAW CONFERENCE for Suffolk, Essex, and Norfolk, similar to that held in 1876, will be held at Ipswich on Oct. 12th. The subjects discussed will be the Education of Pauper Children, Medical Relief, and Vagrancy. Mr. Sclater-Booth, Lord Henniker, and Mr. Salt, M.P., are expected to take part.

A DINNER for the reunion of old and present students of the Faculty of Medicine of University College will be held at the Freemasons' Tavern on Oct. 1st at 6.30 P.M. Mr. Erichsen will preside, and a large gathering is expected. Dinner tickets may be had of the Honorary Secretaries, Dr. Poore, 30, Wimpole-street, or Mr. Stonham, 28, University-street. Applications for tickets must be made before September 25th.

AT an inquest recently held on the body of a clerk whose death was caused by an overdose of laudanum accidentally taken, the coroner's officer stated that the chemist who supplied the drug was out of town, and consequently could not be called upon to give evidence. The officer added that the chemist had stated that he had sold as much as a pint of laudanum at a time, and that in the case under investigation he had cautioned the purchaser of the drug as to its poisonous properties, and had affixed to the bottle a proper label.

IT appears from recent statistics on suicides in great cities that Paris occupies a very unenviable position for its number of suicides. The ratio of suicide for every million inhabitants averages yearly 402, while in Naples it is only 34. The ratio for other cities is as follows :—Stockholm, 354; Copenhagen, 302; Vienna, 287; Brussels, 271; Dresden, 240; St. Petersburg, 206; Florence, 180; Berlin, 170; New York, 144; Genoa, 135; London, 87; and Rome, 74. With regard to New York, it is said that the majority of suicides in that city are Germans.

PRESENTATIONS.—The French Government has forwarded, at the instance of the French Minister of Marine and of the Colonies, a first-class gold medal of honour, suitably inscribed, to Dr. Hughes, superintendent of the *Hamadryad* hospital ship at Cardiff, in recognition of his great attention to the requirements of French sick and injured seamen who have come under his charge.—The friends of Dr. James S. Bee, of Scourie, Sutherlandshire, recently presented him with a horse and set of harness, in token of their appreciation of the untiring energy which he has displayed in the performance of his duties.

FRENCH HOSPITALS.—From a recent inquiry conducted by the Department of Public Assistance it appears that there are at present in France no fewer than 1563 hospitals; but of these by far the greater number partake rather of the character of almshouses and asylums for the aged, the infirm, and the young and friendless. Of hospitals, as the term is understood among us, there seem to be 364, exclusive of the establishments which combine medical treatment with the functions of an asylum. The hospitals which devote themselves mainly to accidental injuries treat on an average 360 000 cases a year, while their patients permanently under treatment number 40,000. The hospitals dispose altogether of 164,955 beds, of which 54,245 are assigned to the infirm, the aged, and the incurable, and 16,050 to children; while 23,459 are needed for the officers and attendants. Speaking generally, the proportion of patients treated in French hospitals appears to be about ninety for every ten thousand inhabitants.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

ALLEN, F. J., M.A. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Second House-Surgeon to the Royal Southern Hospital, Liverpool, vice Sellers, promoted.

BAIRSTOW, TOM, L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Assistant Medical Officer to the Edinburgh Provident Dispensary.

BRERETON, J. B., L.R.C.S.I., has been appointed Medical Officer for the Gildersome District of the Bramley Union.

COLLINS, W. J., M.D., B.S., B.Sc.Lond., M.R.C.S., has been appointed Surgeon to the Western Ophthalmic Hospital.

EDWARDS, THOMAS R. C., M.R.C.S., L.R.C.P., & L.M., has been appointed Medical Officer and Public Vaccinator for the Harrold District of the Bedford Union.

FORREST, Mr. JAMES R., has been appointed Medical Officer for the Brandes Burton District of the Skirlaugh Union.

GORDON, A. H., M.R.C.S., L.R.C.P., has been appointed Junior House-Surgeon to the Royal Southern Hospital, Liverpool, vice M. M. Fitzpatrick, M.B., C.M., resigned.

GORDON, ROBERT, M.B., C.M.Ed., has been appointed House-Surgeon to the Weston-super-Mare Hospital.

HAY, W. A. E., M.R.C.S., has been appointed Medical Officer for the Fourth District of the Bridport Union.

JAQUET, J. LEWIS, M.D., M.R.C.S., has been appointed Honorary District Surgeon to the Royal South London Dispensary.

JONES, CHARLES WILLIAM, M.B. & C.M.Ed., has been appointed Resident Medical Officer to the Receiving Wards, New Bridge-street, and Assistant Medical Officer to the Crumpsall Workhouse Infirmary, Manchester Township, vice A. Wattie, resigned.

JONES, Mr. F. W. B., has been appointed Medical Officer for the Fourth District of the Ross Union.

LINDSAY, JAMES ALEXANDER, M.A., M.D., M.Ch., has been appointed Assistant-Physician to the Belfast Royal Hospital.

NORMAN, J. W., F.R.C.S.E., has been appointed Medical Officer of Health to the Ross Rural and Urban Sanitary Authorities, vice C. C. Cocks, M.D., resigned.

PITTARD, MARMADUKE, M.R.C.S., has been appointed Medical Officer for the Swineshead District of the Boston Union.

SELLERS, W. H. IRVIN, M.B., C.M.Ed., M.R.C.S., has been appointed Senior House-Surgeon to the Royal Southern Hospital, Liverpool, vice J. T. R. Davison, M.D., resigned.

SMITH, J. E., M.D., has been appointed Medical Officer for the Lutton District of the Holbeach Union.

STEEL, W. D., M.B., has been appointed Medical Officer for the Llanarth District and the Workhouse of the Abergavenny Union.

STODDART, Mr. FREDERICK W., has been reappointed Analyst for the City of New Sarum, for one year. Also Analyst for the Borough of Bridgwater, for the same term.

THOMSON, D. G., M.D. Univ. Ed., Assistant-Physician to the Camberwell House Asylum, London, late Assistant Medical Officer to the Derby County Asylum, has been appointed Senior Assistant Medical Officer to the Surrey County Asylum, Cane-hill.

Births, Marriages, and Deaths.

BIRTHS.

BATEMAN.—On the 12th inst., at Whitechurch, Oxon., the wife of Francis Bateman, M.B.Lond., of a son.

BRIGHAM.—On the 11th inst., at Argyle House, Forest-hill, the wife of J. K. Brigham, M.A., M.D., of a son (prematurely).

COOPER.—On the 5th inst., at 9, Henrietta-street, Cavendish square, the wife of Alfred Cooper, F.R.C.S., of a daughter.

HALLOWES.—On the 4th inst., at King-street, Maidstone, the wife of A. H. B. Hallowes, M.R.C.S., of a daughter.

PICKUP.—On the 1st ult., at Bishop-street, Coventry, the wife of William J. Pickup, M.B.Lond., of a son.

STURGE.—On June 20th, at Lady Frere, Cape Colony, the wife of H. H. Sturge, District Surgeon, Cala, Tembuland, of a daughter.

TURTON.—On the 9th inst., at Ashfield-terrace, Heckmondwike, the wife of James Turton, M.R.C.S.E., of a son.

YOUNG.—On the 20th ult., at Bequia, St. Vincent, West Indies, the wife of James Vance Young, M.D., J.P., of a son.

MARRIAGES.

GREEN—GARMAN.—On the 4th inst., at St. Stephen's, North Bow, by the Rev. J. P. A. Fletcher, Vicar, assisted by the Rev. H. D. Nihill, William Alford, eldest son of William Green, Esq., of Leyton, Essex, to Mary Ann Bennison, eldest daughter of H. V. Garman, Esq., M.R.C.S.E., L.S.A.Lond., of Kent House, Bow-road, London, E.

HAIG-BROWN—MONCRIEFF.—On the 29th ult., at St. Mary's Episcopal Church, Glasgow, Clarence W. Haig-Brown, M.B., M.R.C.S., to Hope Margaret, daughter of the late A. Moncrieff, Advocate, Sheriff of Ross and Cromarty.

HOSKER—NEWCOMEN.—On the 3rd inst., at St. Clement's, Bournemouth, James Atkinson Hosker, M.R.C.S., of Boscombe, Bournemouth, to Constance Georgina, daughter of Captain G. Newcomen, R.N.

JONES—ST. CLAIR.—On the 2nd ult., at St. Philip's Church, Watkin W. Jones, J.P., M.D., to Isabella Home St. Clair, second daughter of the late Commander the Hon. Charles St. Clair, R.N.

DEATHS.

CALLAWAY.—On the 4th inst., at 2, Courtnay-terrace, West Brighton, Mary Ann Matilda, widow of Thomas Callaway, Esq., of Blackheath and Southwark, late Fellow and Member of the Council of the Royal College of Surgeons of England, aged 80.

MASTER.—On the 3rd inst., Alfred Master, F.R.C.S., J.P., of Norwich, aged 67.

NICHOLSON.—On the 3rd inst., drowned whilst boating on the Humber, Henry Fitzgerald, second son of R. H. Bourchier Nicholson, Surgeon, of Hull, aged 17.

PARKINSON.—On the 10th inst., at 4, Manor-row, Bradford, William Parkinson, M.R.C.S.E., L.S.A.Lond., Consulting Surgeon to the Bradford Infirmary, Surgeon to the Bradford Borough Police, aged 61.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Sept 13th, 1883.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Sept. 7	29·91	W.	56	51	95	63	49	..	Cloudy
,, 8	29·86	W.	56	55	99	64	52	·05	Raining
,, 9	30·10	W.	57	53	99	69	45	..	Fine
,, 10	30·07	S.	60	55	..	67	54	..	Overcast
,, 11	30·00	N.E.	57	57	..	61	55	·80	Raining
,, 12	30·19	N.	59	57	99	71	55	·06	Overcast
,, 13	30·28	E.	57	55	72	67	55	..	Overcast

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

MEDICAL INVESTIGATION AS TO CONSUMPTION.

THE Berlin Society for Internal Medicine has resolved to organise, on the model of social and political inquiries, an investigation on the subject of pulmonary consumption. A committee appointed for the purpose has drawn up about fifty questions, the answers to which will furnish the materials which it is desired to collect. These queries are framed with a view of defining, in the first place, whether hereditary transmission of the germ of the disease can take place, and whether proximate circumstances seem to render infection possible. The inquiry is intended to last until 1st December. The medical circles interested in it hope, by the co-operation of practical medical men and of medical societies, to obtain such materials as may facilitate the solution of the questions under consideration.

A Resident of Grove-park, Chiswick.—We think, as a rule, that in a case of urgency a medical man should go when sent for, whether the patient be one of his clients or not. But our correspondent will perhaps, judge his medical neighbour a little more lightly if he considers the calls on a medical man and the way in which his "ready help" is often forgotten and allowed to go unrewarded.

Percy.—Such conduct would be likely to be considered "infamous in a professional respect" by the Medical Council, and therefore to call for the removal of the name from the Register.

Mr. R. P. Wilde.—The Bill was not even read a second time in the House of Commons, and will have to be introduced *de novo*.

Dr. Birt Chontales.—The paper will be inserted in an early number.

M.R.C.S.—The charge was quite reasonable.

THE DISINFECTION OF RAGS.

To the Editor of THE LANCET.

SIR,—I have read with great interest your article in THE LANCET respecting the disinfecting of rags imported into England from other countries. I, as certifying surgeon in a district which probably uses more rags than any other district in England, am greatly interested in the subject.

I am frequently consulted as to the best means of disinfecting rags. A manufacturer in my district having constructed a machine has asked my advice as to whether his process will be effective in destroying all infection. I have carefully examined his process, which is as follows:—A revolving cylinder furnished with long teeth is half filled with rags, about 120 pounds. A temperature of from 270 to 300° F. dry heat is maintained, and, by means of a retort containing four ounces of sulphur to each charge, a continuous sulphur vapour is admitted into the cylinder, which revolves six times per minute. By means of the long teeth the material is thoroughly exposed both to the action of the heat and also of the sulphur vapour. The rags remain in the cylinder for thirty minutes.

Can any of your readers tell me if they consider the temperature vapour, and length of time sufficient to act as a thorough disinfectant My excuse for trespassing on your space is the vital importance of preventing, if possible, the loathsome filthy rags which I constantly see in warehouses being sent out as shoddy and flocks without going through any disinfecting process.—I am, Sir, yours truly,

August 28th, 1883. CERTIFYING SURGEON.

A HOMŒOPATHIC SUGGESTION AGAINST THE IMMINENT DISSOLUTION OF HOMŒOPATHY.

IT is not we only who advocate the dropping of the word homœopathy out of the vocabulary of scientific medicine. The *Hahnemannian Monthly* writes in a recent issue:—

"A few years ago the editors of the *New York Medical Times* dropped from the title of their journal the distinctive word 'Homœopathic;' now they boldly urge the renunciation of the word as applied to our school of medicine. If we are emancipated from the thraldom of *sect*, we shall not only save our school from imminent dissolution, but shall also become an integral part of the medical profession of the day, honoured as true, broad, liberal, progressive physicians. But if we cling to a name which by no means represents the catholicity and spirit of the new school, we are doomed to annihilation; and more, we become the common enemy of all allopaths and also of all progressive homœopaths. The neutral ground upon which a lasting truce is to be consummated is the common acceptance of the dual action of drugs. No one denies that ipecac. in one dose will vomit, and in another will allay vomiting; therefore no one will contend with another if only this plain truth is adopted as the universal motto of the medical profession."

It must come to this—when, depends on the courage and sense of those who have made themselves a sect.

A FUND has been opened at the Mansion House to mitigate the distress caused by the epidemic of cholera in Egypt. It is estimated that 30,000 persons have lost their lives, most of them having been the sole support of their families, who belonged to the poorer classes and who are in a pitiable and helpless condition.

Mr. Henry F. Desmond should consult his medical adviser

TREATMENT OF HEART DISEASE.

To the Editor of THE LANCET.

SIR,—Allow me space in your valuable journal for a suggestion I would offer, which, while I submit it for your approval, I may tell you is original on my part. It is a method of treatment for cure of heart disease, and based on the close analogy existing between rheumatic fever and valvular lesions. We read in medical works that valvular lesions crop up after the above fever, and also that if we but follow a particular line of treatment it is possible for us to destroy in part, if not entirely, this latent tendency which rheumatic fever has to cause morbid growths on the cardiac valves.

Now, inasmuch as I condemn the system of drugging by the mouth those diseases for which medicines are useless and medical men only ornamental agents in a pecuniary sense, I would suggest to the medical faculty the propriety of making a series of experiments in post-mortem rooms with a view to find out if possible some agent which is capable of dissolving these morbid growths on the valves of the heart. If fortunate in finding one agent, the next step would be to see if it would work in an equally effective manner when in the presence of recently drawn blood (human). If the required result followed, nothing is left but (after proper experiments on lower animals to find the required quantity fit to inject) to inject it into the veins, and so let it come directly in contact with the diseased part.

By such aid we ought, I think, to be more sanguine of success, even though we have to battle against the few objections raised by physiologists, than we would were we to suffer ourselves to be frightened by their remarks, and continue to give our nauseous drugs by the mouth. In defence of this method of treatment I may add it is my opinion that the knowledge of medicine, and particularly the knowledge of the many changes wrought in the animal laboratory on medicine given by the mouth, is not advanced enough to offer a proper explanation for any good results which may perhaps have followed the old system.

If, then, we do not consider the knowledge of medicine sufficiently far advanced for such purposes, why, I ask you, do we suffer ourselves to be slaves to that pernicious system of drugging by the mouth when it is nothing more or less than guesswork? Hoping this will meet with your approval, I remain, Sir, yours truly,

August 27th, 1883. MEDICUS.

*** The series of experiments recommended for post-mortem rooms would be valueless, when we consider that during life we have to deal with living tissues. Moreover, it is doubtful whether fluids would be found capable of dissolving the vegetations (not wholly composed of fibrin) without damaging the proper valvular structures. Again, the view that the vegetations may be dissolved by certain medicines is of considerable age, and remedies have been administered which were supposed to act in that fashion.—ED. L.

"INTENSE ITCHING."

To the Editor of THE LANCET.

SIR,—I have to report considerable improvement in my patient's condition, and to thank numerous kind correspondents for hints as to treatment. Externally, carbolic acid and spirits of wine seemed to do good; "washing soda" in tepid water was of more benefit; but the *materies morbi* was evidently supplied by a torpid liver, and consequent dyspepsia and constipation, for which I prescribed rhubarb and soda, with grey powder, and an occasional podophyllin pill; also I consider that the cheerful society of friends from a distance has contributed to this relief.

I am, Sir, yours, &c.,

Thurso, N.B., August 29th, 1883. JNO. CRAVEN.

DEFICIENT WATER-SUPPLY IN DUNBLANE.

Dr. R. J. (Dunblane) writes to say that the term "wretched" applied by our Scottish Correspondent to the water-supply of Dunblane does not apply to the Dunblane Hydropathic Establishment, where the water-supply is from an independent source, and is always abundant in quantity and excellent in quality.

WE are requested to state that, in addition to the list given in our last issue, the following prizes were awarded at Westminster Hospital during the past session:—Histology, F. T. Simson; Materia Medica, F. T. Simson and W. A. Wills, equal.

A Stranger.—The only way of obtaining such experience is to hold a post in a lying-in hospital or in one of the charities to which a maternity is attached.

An Enquirer should apply to the Government Emigration Office, Park-street, Westminster, for authentic information.

X. Y. should consult his medical adviser.

DIPHTHERIA COMPLICATED WITH SCARLET FEVER: SUDDEN DEATH.

To the Editor of THE LANCET.

SIR,—The following is the record of a case of diphtheria which occurred while I was acting house-surgeon at the Bedford General Infirmary and Fever Hospital in April of the present year, and has a certain amount of interest attached to it, inasmuch as it was complicated with scarlet fever, the combination of two acute specific febrile diseases being, I believe, of rare occurrence. Another point of interest in it, though not of rare occurrence, is its sudden fatal termination; the case, too, may be an answer to those who consider scarlet fever and diphtheria as one and the same disease.

O. J——, aged nine, was brought to the hospital with a bad throat on the morning of April 7th. On examination, the tonsils were found swollen and covered with a dirty-brown tenacious membrane; the tongue was furred, and the breath had the well-known fetor attendant on diphtheria; pulse strong, 110; temperature 100°; bowels open, but not relaxed; urine febrile, acid, but no albumen. I had her removed, as is the custom here with diphtheria, to the Fever Hospital, and she was placed in a room opposite a scarlet fever ward containing patients, the doors opening opposite each other and being separated only by the width of the passage, and the throat was painted with glycerine of carbolic acid night and morning, and perchloride of iron and hydrochloric acid were administered internally. The girl's throat gradually got worse up to the 10th, the membrane spreading over the back of the pharynx and down the nostrils, lacrymation also being severe; the alæ nasi were dilated on inspiration and the glands at the angles of the jaw were immensely swollen; pulse 130, dicrotous; she was put on three ounces of brandy, and matters looked grave. From that time, however, she gradually improved, the swellings behind the jaw lessened, the membrane from the tonsils, pharynx, and nose began to disappear, lacrymation had ceased, the pulse became stronger, and things began to wear a brighter aspect, when, on the afternoon of the 16th, she was seized with violent vomiting and complained of her head, and became drowsy and heavy; temperature 100°, pulse 140. On the following morning she was covered with a bright scarlet rash, temperature 101°, vomiting continuing, though not nearly so violent; her urine became albuminous for the first time. On the 17th, while examining her throat, the soft palate was noticed to be paralysed, and fluid swallowed regurgitated through the nose; her temperature varied from 101° to 100° to the morning of the 19th, when it fell to normal; her pulse was very feeble, and she was put on more brandy. There was no great change in the symptoms until the same evening, when the child sat up to speak to its mother and fell back dead.

I am, Sir, yours faithfully,

Lincoln County Hospital, Sept. 4th, 1883. E. COLBY SHARPIN.

K. J.—The Bill would not directly affect our correspondent's legal standing. Before his Swiss degree could be of avail as a registered qualification it would have to be approved by the Medical Council.

Mr. Edwin Scott.—Our correspondent is referred to our advertising columns.

Enquirer should consult a respectable perruquier.

"TREATMENT OF CHYLOUS URINE."

To the Editor of THE LANCET.

SIR,—In answer to Mr. Farnell Griffith's question, I should suggest the following treatment of chylous urine as the most rational. Between the attacks prescribe turpentine in large doses, and chloroform to be taken internally in a mixture and in quantity as great as prudence allows it. The latter agent seems to act well. During the attacks prescribe first a dose of tannate of pelletierine banret, to be taken with the usual cautions, and, besides, administer ergotine every day by way of hypodermic injection. If there is a tendency to the formation of uric or oxalic calculi, of course submit the patient to an alkaline treatment. At last continue the use of tonics. It would be also very useful to submit the urine to a microscopical examination during the attacks in order to discover some specimens of distoma hematobium, for the discovery of the parasite itself would be a certain proof of the efficiency of the tannate and an encouragement to persevere in the treatment.

I am, Sir, yours truly,

Paris, August 26th, 1883. DAVID DININ.

A NEW DOCTOR FOR BELFORD.

IT would not be fair to hold the young graduate, with all his blushing honours thick upon him, responsible for the ill-judged puff in the paper-slip sent to us.

A Bronchitic Patient.—The information at present attainable is not very reliable, coming, as it does, from persons who are interested in the success or failure of the method of treatment.

Anxious.—We cannot recommend any particular practitioner.

THE DUTIES AND RESPONSIBILITIES OF THE CHEMIST IN CASES OF ACCIDENTAL POISONING.

To the Editor of THE LANCET.

SIR,—Will you kindly grant me space in your columns to draw the attention of your readers to the above subject? In cases of poisoning, chemists are often called upon, and it is really a matter of much difficulty to determine how far chemists ought to proceed before the services of a medical man can be obtained. I do not refer so much to those cases where the poisons are both quick and fatal; in such a case, when life is in immediate danger, no professional etiquette would be likely to prevent a chemist from using all the means in his power to save the life of a fellow creature. But there are what might be called the minor cases of poisoning, where small quantities of salt of sorrel, salt of tartar, nitro-turpentine, ammonia, and such like, are swallowed, and the result, although not immediate, may be serious enough. The most recent under my observation was an instance of taking salt of sorrel for Rochelle salts. The drug was obtained at my own pharmacy, and although I used every means to obviate danger, I fear that I am not forgiven because I did not go to the house and see the victim. The case is as follows:—I, like most suburban chemists, am well used to washerwomen coming direct from the wash-tub, with the soap still frothing on their hands, for salt of sorrel. One morning recently a woman of the said type, and apparently from the wash-house, came to my shop and asked for a pennyworth of "some sort of salt." I at once concluded from her appearance that it was the usual order, "salt of sorrel," and having mentioned that name, she answered "Yes." I weighed out the quantity, and when labelling I always make a point of repeating the name, and the word poison, to be careful. This woman, however, passed out without saying anything to assure me of her having heard my word of caution. In about half an hour she returned in a great state of excitement to tell me I had given her poison, and that she had given it in water to the lady for whom she was working. I at once gave her some prepared chalk to be administered in milk or water, and to be followed by a mustard emetic. I also told her to call in the doctor. I said there would be no immediate danger if she gave the chalk and emetic as directed. The patient fortunately vomited shortly after, and on the arrival of the doctor, some time after, he found the patient out of danger, but was surprised to learn that I (the chemist) had not gone to see the antidotes administered. I consider I did all that I would have ventured to do without leaving the shop, and surely the administration of the chalk and mustard might be left with the members of the household or neighbours. As a natural sequence, I was visited in the evening by two men, who lectured me most unreasonably; not only did they accuse me of a direct blunder, but based a furious attack upon the remark of the doctor "that he [the doctor] was surprised the chemist did not attend." I may mention that I was never asked or sent for, and had no idea where my customer had come from. As an instance of the carelessness of some people, I discovered that this woman, who was entrusted with the giving of medicine, could neither read nor write. The package was distinctly labeled "Salt of sorrel—Poison."

The questions which I would like to ask the doctor and your readers are, What further service could I have performed even at the bedside of the patient? Do medical men expect chemists, or would they care to see them, run where there is really no early danger whatever? In such cases chemists stand in a very unpleasant and unprofitable position, often rendered more so by the injudicious remarks of the family doctor. I shall be greatly favoured if your readers will kindly state their expectations if under the same conditions.

I am, Sir, yours faithfully,

Sept. 10th, 1883. G. S. ILLINGWORTH,
Associate of the Pharmaceutical Society.

J. Payne Massingham.—We are quite in accord with our correspondent and think he has given his patients or friends good advice.

Medicus and One Who Knows has not enclosed his card.

H. Fisher, M.D.—The paper will probably appear next week.

CEPHALOTRIPSY.

To the Editor of THE LANCET.

SIR,—Mr. C. E. Jennings, in an article published in THE LANCET of the 11th ult., professes to instruct us in the use of the cephalotribe. May I ask on how many occasions and with what results Mr. C. E. Jennings has himself applied the instrument? Three years ago Mr. C. E. Jennings was a fellow student at the London Hospital, and for the sake of comparison I should like to know where contracted pelves exist in such abundance as to give sufficient experience for the perfection of such an elaborate instrument in two years. Among 190 cases attended during the past two years I have only met with the necessity for turning once, and have never had to use either crotchet or perforator.

I am, Sir, yours faithfully,

EDWARD F. GRÜN, M.R.C.S.

Platt House, Putney, September 10th, 1883.

"THE MEDICAL REVIEW AND INVALIDS' GUIDE."

THIS publication is too obviously an advertisement of certain gentlemen whose names figure in it to be much heeded by those to whom it is sent. It is inconceivable that the persons whose names are given at p. 36 are in any way responsible for such an indignity.

Fairplay.—We do not wonder at our correspondent's disgust with the conduct of his neighbour if his statement is correct.

Alcohol.—The diastase is destroyed by the boiling which precedes fermentation.

Anxious Enquirer.—A sea voyage would probably be beneficial.

Mr. William Jones.—In the vicinity of Golden-square.

MILK DIET, &c., IN ENTERIC FEVER.

To the Editor of THE LANCET.

SIR,—The communications which have appeared on the above subject in your journal cannot fail to influence the minds of those who may have any doubts about the diet most suitable in the treatment of enteric fever, and I fondly hope they express the mind of the profession at large on this important matter, so fully convinced am I of the wisdom of keeping patients strictly on milk diet in this grave and treacherous disease.

As a country practitioner with considerable experience of enteric fever, I can endorse the views set forth by your correspondents who have been engaged in hospital work, and I would willingly refrain from intruding on your notice but that I feel persuaded the last three or four sentences in the first paragraph of Dr. Tonge-Smith's letter convey a truth of very great interest and importance, and refer to a point in the clinical history of this disease, so far as I know, never before insisted on. The fact regarding the temperature there alluded to has been familiar to me for some time, and I confess that in my earlier cases it caused me some anxiety. There can be no doubt that an exclusively milk diet for three or four weeks has in many cases a tendency to leave the patients in the condition noted by Dr. Tonge-Smith—viz., a temperature over 100 without any discoverable cause for pyrexia. I cannot explain the fact myself, but I can vouch for the truth of it. The remedy for this state of matters is very simple. If the patient has for a week been free from all abdominal tenderness and diarrhœa, animal food should be administered without delay, and the temperature very speedily becomes normal. I do not admit that here we have to do with relapse at all, for in the absence of all symptoms but pyrexia it would be a misuse of the term and a misapplication to the condition of matters I am referring to. So that I am disposed to disagree with Dr. Tonge-Smith when he says that "perhaps when we know more of relapse, diet may not often be held a sufficient cause." On the other hand, I thoroughly agree with Dr. Adam when he says that nothing can take the place of milk in enteric fever, or, let me add, should do so until any danger to the tender mucous membrane of the intestine need not be anticipated by a change of diet. That the temperature often remains high when nothing but milk is given for three or four weeks, and that a return to animal soups lessens it, are facts which I have repeatedly observed. It is of practical importance to be aware of this, because the patient with hereditary leanings to tubercular disease may have his life endangered by needless timidity on the part of the physician. Hydrobromic acid as a solvent for quinine is preferable to any of the mineral acids from its being less irritating.

I am, Sir, yours truly,

Sept. 10th, 1883. R. M'K.

A. E. D. shall receive the information he desires next week. We have referred his letter to our Paris correspondent.

Ink.—The questions raised are for the present in abeyance.

Mr. Horace Murray.—There is no such institution.

ERRATA.—In line 40, p. 381, second column of our issue of Sept. 1st, for "hours," read "years."—In our issue for Sept. 8th, page 425, the instruction in clinical midwifery by Dr. Duncan should have been stated as being given every second Thursday at 1, and the lectures on midwifery as being delivered daily at 9, instead of Tuesdays, Wednesdays, Fridays, and Saturdays at 8.30.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Eberle, Thirsk; Dr. Adam, Malling-place; Dr. Swift, London; Mr. James; Mr. Hart, Hartlepool; Mr. Sullivan, Leicester; Mr. Gill, Kendal; Mr. Lennox Browne, London; Mr. Henry Davy, Exeter; Mr. White, Wadhurst; Mr. W. Smith, Manchester; Mr. J. Craven; Mr. Lloyd, Liverpool; Mr. H. T. Butlin, London; Mr. Stanniland, Bodenham; Miss Mould, Brixton; Mr. Butler, Downham; Mr. Field, London; Mr. Beaumont, Grantham; Dr. Thomas; Messrs. Hewlett and Son, London; Mr. Smith, Linkenhouse; Messrs. Maclehose and Son, Edinburgh; Dr. Macadam, Edinburgh; Mr. Wight; Mr. Gordon; Mr. Maclue, Forres; Mr. Mullins, Dudley; Mr. Spurgeon, Mary Fort; Mr. Wood, Burton-on-Trent; Mr. E. N. Smith, London; Mr. Walker, Aberdeen; Mr. Clemeats, Tunbridge-wells; Mr. Pritchard, Acton; Mr. Carpenter, Bishopsteignton; Mr. Fox, Finsbury; Mr. Morgan, West Feltham; Mr. Owen, Abergavenny; Messrs. Wyleys and Co., Coventry; Mr. Savage, London; Dr. Brown, Bowden; Mr. Scolfield, Bournemouth; Dr. Beaman; Mr. Wylie, Belfast; Messrs. W. and A. K. Johnston, Edinburgh; Messrs. Warner and Co., Leicester; Messrs. Polak and Co., London; Messrs. Harvey and Reynolds,

Leeds; Mr. Tweddel, West Hartlepool; Dr. Brigham, Forest-hill; Mr. Kershaw, London; Messrs. Pitt and Co., London; Mr. Bagshaw, Salford; Dr. Ewart, London; Mr. Jack, London; Mr. Hodgkin, Oxford; Mr. Smith, Clapton; Mr. Baxter, Kennington; Mr. Gegan, Blackheath; Mr. Gurner; Miss Jones, Hollywood; Messrs. Bradshaw and Co.; Messrs. Maclachlan and Co., Edinburgh; Mr. Cornish, Manchester; Messrs. Robertson and Scott, Edinburgh; Mr. Osman, Bath; Mr. Bristow, Shaftesbury; Mr. Jackson, Sheffield; Mr. Grace, Bristol; Mr. Brear, Mirfield; Mr. Bond, Birmingham; Mr. Philpot, London; Mr. Dunn, London; Mr. Rowley, Barnsley; Mr. Carrington, London; Mr. Platt, Heidelburg; Dr. M. Corner, London; Dr. Fisher, Chelsea; Messrs. Simmons and Co., London; Messrs. W. and J. Jamieson, Glasgow; Dr. W. Murrell, London; Dr. Campbell, Liverpool; Dr. J. A. Lindsay, Belfast; Mr. Desmond, London; Dr. Foster, Leeds; Mr. W. Whitehead, Manchester; Dr. Atkinson, Melbourne; Mr. Stewart, Bombay; Dr. Bond, Gloucester; Dr. Paget, Cambridge; Dr. Bolton, Roumania; Mr. Pope, Rotherham; Dr. R. J. Banning, London; Mr. Baines, London; Mr. Shirley, Worcester; Mr. Stacey, Hammersmith; Mr. M'Nicoll, Southport; Dr. Rennan, Teignmouth; Mr. Craven, Thurso; Mr. Butlin, London; Mr. H. Davy, Exeter; Mr. Trevelyn, Belfast; Dr. C. C. Blades, London; Dr. John Roche, Dublin; Mr. R. Urquhart, Edinburgh; Mr. J. P. Massingham, Stoke-upon-Trent; Mr. E. C. Sharpin, Lincoln; Mr. T. Edwards, Harrold; Mr. Solley, London; Mr. Jones; Mr. C. Fraser, Laing; Dr. Cousins, Portsmouth; Aristobulus; A. E. D.; R. M'K.; Anxious; Enquirer; Owner, Shanklin; X.; E. P.; W. R. C., Blackpool; S. R. P.; Meta, Ramsgate; S. E. M.; K. N.; G. A.; Medicus, St. Leonards-on-Sea; L. M.; Certifying Surgeon; Fairplay; Percy; Another British Practitioner Resident in the States; Sigma; A Resident of Grove-park, Chiswick; R. P.; Ink; Anxious Enquirer; &c., &c.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Soutter, Finsbury-park; Messrs. Maxwell Brothers, Brixton; Mr. Palman, Cambridge; Messrs. Warner and Co., Leicester; Mr. Jeffery, Epsom; Dr. Jennings, Teignmouth; Mr. Pickup, Coventry; Mr. Holloway; Mr. M'Laren, Edinburgh; Mr. Golard, Alcester; Mr. Armstrong; Mr. Utting, Liverpool; Mr. Evans, Festiniog; Messrs. Howlett and Co., London; Messrs. Whitehall, Browsley; Mr. Merten, Nottingham; Mr. Cole, Chester; Mr. Williams, Port Isaac; Mr. Ashworth, King's Lynn; Mr. Hodgkinson, London; Dr. Pope, Sirhowy; Mr. Lawson, London; Mr. Duncan, Edinburgh; Mr. Culleton, London; Mr. Clark, Burton-on-Trent; Mr. Feeney, Bowness; Mr. Lloyd; Dr. Bastable, Blackburn; Mr. Wright, Edinburgh; Mr. Hughes, Birmingham; Mr. Francis, Brighton; Mr. Lilly, Lyme Regis; Mr. Mosse, London; Dr. Dorman; Mr. Pollock, Richmond; Dr. Colmer, Yeovil; Mr. Mann, Leith; Mr. Busantoy; Mr. Skinner, Winchelsea; Messrs. Smith and Co., London; Mr. Burleigh; Dr. M'Cartney, Wortham; Dr. Kaser; Dr. Telford, Bury; Mr. Urquhart, Edinburgh; Dr. Crow, Highbury; Mr. Furneaux, Stoke Newington; Mr. Freeweeks; Mr. Woodward, Birmingham; Mr. Staddon, Ipswich; Mr. Moore; Mr. Nicholson; Mr. Whitmore, Dursley; Mr. Whall, Worksop; Mr. Hills, London; Mr. Browne, London; Mr. Carrington, Barnsley; Mr. Ramskill, Knaresboro'; Mr. Turton, Hickmondwike; Mr. Sergeant, Camden-town; Mr. Sturge, Dartford; Mr. Javis, Ashford; Dr. Ker, London; Dr. Garrett, Manchester; Mr. Wilson, Southsea; Dr. Rathbury; Mr. Allsop, Shipley; Mr. Wood, Uttoxeter; Mr. Jackson, Bradford; Dr. Jolly, Honiton; Messrs. Parkinson, London; Mr. Norman, Ross; Mr. Gilkes, Newbury; Mr. Burleigh, London; Mr. Gill, Kendal; Mr. Bateman, Whitchurch; Mr. J. Cooke; Mr. Richet, Paris; Mr. Hickinson; Alpha, Edinburgh; Dr. F., Newcastle-on-Tyne; J. A. M.; M. P. L., Canonbury; O. B. S., Holloway; C. W. B.; W. W., Stanmore; A. B. C., London; J. W.; Medicus, Sheffield; T. B.; M. S.; Beta; H. W., Downham Market; M.D., London; B., Croydon; Medicus, Bromsgrove; Medicus, Hanley; G. O.; J. M.; A. B., London; Glaucoma; T. D., York; M.D.; Devon; S. H. W.; X. Y.; Beta, Liverpool; T. T. G.; Watis, London; W. B. S., Bow; M.R.C.P.; T. L. V.; Medicus, Manchester; Medicus, Liverpool; Practitioner; M. S.; L. E. A.; B. C. D., Edinburgh; C. W. R., Bow; Medicus, Minchinhampton; S. P. E., Lewes; Scalpel, Worthing; G. P., Wolverhampton; Delta, Leeds; M.R.C.S., Bath; Omega; H. O. S.; Medicus, Tufnell-park; Medicus, Holborn; Libra; J. A. M., Peckham; J. J. J.; R. W.; C. G. C. S.; H. M., Leicester; Solus; M. L. R., Uxbridge; Medicus, Birmingham; Medicus, Bristol; H., Leeds; Principal, St. Leonards; M. B.; T. M.; Chemicus; H. R. F.; M. R.; T. E., Gloucester; Meta, Ramsgate; L. R. D.; Surgeon, Hull; M.D.; Beta, Stoke Newington; Registrar, Bath; &c., &c.

Western Morning News, West London Advertiser, Revue de Thérapeutique Médico-Chirurgicale, Surrey Advertiser, Egyptian Gazette, Hastings and St. Leonards Times, Chelmsford Chronicle, Eastbourne Courier, Bucks Herald, Hertfordshire Mercury, Western Mail, Aberdeen Free Press, Sussex Daily News, &c., have been received.

Medical Diary for the ensuing Week.

Monday, Sept. 17.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

Tuesday, Sept. 18.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Wednesday, Sept. 19.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays, at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.

Thursday, Sept. 20.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, Sept. 21.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

Saturday, Sept. 22.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year.....£1 12 6 | Six Months.....£0 16 3
TO CHINA AND INDIA..... One Year, 1 16 10
TO THE COLONIES AND UNITED STATES... Ditto, 1 14 8

Post Office Orders should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable at the Post Office, Charing-cross.

Notices of Births, Marriages, and Deaths are charged five shillings.

Cheques to be crossed "London and Westminster Bank."

ADVERTISING.

Books and Publications	£0	5	0
Official and General Announcements	0	5	0
Trade and Miscellaneous Advertisements	0	4	6
Seven lines and under (each averaging ten words).			
Every additional Line	0	0	6
Front Page per Line	0	1	0
Quarter Page	1	10	0
Half a Page	2	15	0
An entire Page	5	5	0

The Publisher cannot hold himself responsible for the return of testimonials, &c., sent to the office in reply to advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on page 2, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.
Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.
Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.
Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.
Advertisements are now received at all Messrs. W. H. Smith and Sons' Railway Bookstalls throughout the United Kingdom, and all other Advertising Agents.
Tables of Contents, with the Index of Advertisements, for each Number can be had on application to the Publisher.

Agent for the Advertising Department in France—J. ASTIER, 66, Rue Caumartin, Paris.